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# Consumption of Feed by Livestock, 1909-56

*Relation Between Feed,  
Livestock, and Food  
at the National Level*



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Production Research Report No. 21  
UNITED STATES DEPARTMENT OF AGRICULTURE



The people of the United States now eat more meat, milk, and eggs per capita than in 1910, yet less feed is consumed by livestock in producing the per capita supplies of these foods.

The measurement of changes in feed-conversion efficiency is a complex job. This report attempts to show quantitatively the feed consumed by each class of livestock and for each livestock product annually, for nearly half a century, or since 1910. More product per unit of feed results from improvements in livestock, feeds, and management. These improvements flow from the combined research of workers in such fields as agronomy, animal breeding, nutrition, economics, and farm management. Lower feed costs to farmers and a more abundant food supply for consumers are the rewards.

This report supersedes Circular 836, Consumption of Feed by Livestock, 1909-47.

Washington, D. C.

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# Consumption of Feed by Livestock, 1909-56

*Relation Between Feed,  
Livestock, and Food  
at the National Level*



*By Ralph D. Jennings*

Production Research Report No. 21

Agricultural Research Service

UNITED STATES DEPARTMENT OF AGRICULTURE

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# Consumption of Feed by Livestock, 1909-56

## *Relation Between Feed, Livestock, and Food at the National Level*

By Ralph D. Jennings, agricultural economist, Farm Economics Research  
Division, Agricultural Research Service\*

### SUMMARY

This report revises and continues the series of data on feed consumption by livestock presented in two earlier reports under the same general title. The estimates represent a continuing balance sheet in which all of the various kinds of feed, including pasture, are balanced against all of the livestock in the United States over a period of nearly 50 years.

Longtime changes include an increase in the percentage of all feed units coming from hay and a decrease in those from pasture. As used in this report, a "feed unit" is the amount of any feed that is equivalent in feeding value to a pound of corn. Commercial byproducts, especially high-protein feeds, occupy a large place in the total feed supply. The formula feed industry has grown increasingly important, especially since World War II. Feed additives play a significant role.

Total live weight production of meat animals and production of livestock products have increased more than animal numbers. The composition of the livestock population has changed, most markedly in the great reduction in horses and mules.

Grain-consuming animal units of livestock increased from 128 million in 1909 to 166 million in 1956. Roughage-consuming animal units of livestock increased somewhat less. In recent years dairy cattle received 30 percent of all feed units, including pasture, consumed by livestock, beef cattle 33 percent, hogs 17 percent, poultry 11 percent, and horses and mules 4 percent. Before 1920 about one-fourth of all feed units went to horses and mules.

Feed inputs per head of livestock have increased over the years, but inputs per unit of livestock production have decreased. Since 1910, feed consumed per unit of livestock production, excluding horses and mules, has decreased about 20 percent.

Less than half the total feed nutrients consumed by livestock in the United States could be used for human food. Much of the rangeland in the West and farm pastureland elsewhere would be of little value for producing other food products. Roughage-consuming livestock utilize such lands most efficiently.

\*Earl F. Hodges, agricultural economist, assisted in completing the manuscript after Mr. Jennings retired in late 1957.

## INTRODUCTION AND METHOD OF PROCEDURE

The production of feed and the feeding of livestock make up the principal occupation of many farmers, and it is of at least secondary concern on most farms. A shortage of feed affects consumers because it results in smaller supplies of meat animals and dairy and poultry products, and in prices that are correspondingly higher. The production of feed and food for export is an important segment of our agricultural economy. Therefore, the items that make up the feed supply of our country and the way in which the supply is utilized is of interest and importance to many people.

This report is largely a continuation and revision of the information in Circular 836 (18),<sup>1</sup> published by the Department of Agriculture in 1949, which superseded Circular 670, published in 1943. Some changes in methods and data reported in Circular 836 are included in this report. Larger total estimates of feed consumption by young growing livestock, especially cattle, were used. The estimates used are in line with relationships presented by the Committee on Animal Nutrition of the National Research Council (33). These changes resulted in higher estimates of feed from pasture and grazing than in the earlier study. Also, the total of concentrates fed to hogs and horses and mules from 1910 to 1930 was estimated to be larger and that fed to poultry smaller in this report than in Circular 836. In that period, more of the poultry were in farm flocks rather than commercial enterprises. Apparently, poultry obtained a considerable part of their feed from sources not counted in the feed supply.

The tables that show digestible protein, digestible nutrients, and net energy of feedstuffs were revised in line with those in the 22d edition of Feeds and Feeding (31). Tables were added to show the estimated consumption of the different oilseed meals by, and the estimated protein content of concentrate rations for, different kinds of livestock.

Primary sources of information for the total feed supply were the reports of the Department of Agriculture on annual production of the principal feed crops—corn, oats, barley, sorghum grains, hay, and silage (39)—and on stocks of most of these feeds at quarterly intervals during the year (49). The chief sources of information for numbers of livestock to which the feed was fed and production of livestock and livestock products were reports of the Department of Agriculture on numbers of animals on farms January 1 (45) and reports on live-weight production of meat animals (46) and poultry (41, 42), numbers of eggs (41), pounds of milk (40, 47), and quantity of wool (50), produced annually in this country.

The quantities of feed grains used for seed, food, and industrial uses, and the quantities exported and imported were taken into account in arriving at the total quantity fed.<sup>2</sup> The quantity of feed fed is calculated for the year beginning October 1. This is the crop year for corn, the principal feed grain. The annual inventory of livestock is reported as of January 1, and this comes within the crop

<sup>1</sup> Italic numbers in parentheses refer to Literature Cited, p. 67.

<sup>2</sup> Losses by rats and insects and losses from causes such as spoilage or destruction resulting from unfavorable conditions after harvesting of hay and other crops were not deducted; they are included in quantity fed. Little information on these losses is available, and no estimates were made. Variations in these losses from year to year are believed to affect very little the relative comparisons that can be made from the data in this report.



year. Annual production of livestock products is reported by the Department on a calendar-year basis. These figures were recalculated in this report for most products on the October-year basis. Thus, the feed consumed and the livestock that used the feed are compared as nearly as possible for the year beginning October 1.

The comparison between feed and livestock is carried back to the year beginning October 1, 1909. Data on both feed and livestock are not nearly so complete for the years 1909 to 1925 as they are for the years since 1925. Data on production of silage and most byproduct feeds are lacking for the earlier years. Nevertheless, the data appear to be sufficiently complete to provide a longer perspective.

In estimating the quantity of feed consumed by each class of livestock, the writer relied heavily upon the many farm-management studies that have been made of individual farms in different parts of the country. In these studies, which cover the last 46 years, feed fed to different kinds of livestock was often a part of the information obtained. Results from many of the studies were reported in the 1925, 1931, and 1933 Yearbooks of Agriculture (54) and compiled in a Bureau of Agricultural Economics report issued in 1941 (11). Data available from the many feeding experiments that have been carried on by agricultural experiment stations were used also. In addition, the Agricultural Estimates Division (now in the Agricultural Marketing Service and before 1954 in the former Bureau of Agricultural Economics) has obtained and published each year since 1930 information on feed fed to milk cows (48, 38). Special inquiries also were made by the Bureau of Agricultural Economics on feed fed to horses, mules, and poultry (5, 51). Statistical studies of livestock and marketing relationships by others have been helpful (14). Estimates relating to feed fed to different classes of livestock (except milk cows) are not based on factual data received currently from farmers. They are largely estimates made by the author. However, they account for practically all of the feed,<sup>3</sup> and for most of the livestock in the United States<sup>4</sup> during each year. Thus, in effect, they are a kind of trial balance over the 46-year period of the two groups of data in the United States as a whole—feed consumption and livestock numbers and production.

## CONSUMPTION OF FEED IN THE UNITED STATES

It is not the purpose here to discuss acreage, yields, production, and stocks of feed grains, commercial byproducts, and hay. These data are presented in the various issues of Agricultural Statistics (53) and in Grain and Feed Statistics (44). Data relating to production and supplies of feeds are given in various Department reports, and the current economic situation with respect to feeds is published by the Agricultural Marketing Service in *The Feed Situation* (43). Only data relating to feed consumed by livestock are presented here.

### Grains

The principal grains fed in order of their importance are corn, oats, barley, sorghum grains, wheat, and rye (table 1). In the years 1951-56, the quantity of these grains fed averaged about 97 million tons

<sup>3</sup> Except pasture, corn stover, waste feeds, and residues.

<sup>4</sup> Except livestock in cities, and ducks, geese, pigeons, dogs, cats, and game animals on farms.

annually, of which corn, excluding corn in silage, accounted for 68 million tons, or 70 percent; oats 19 million tons, or 20 percent; barley 4 million tons; sorghum grains more than 3 million tons; and wheat and rye about 2.6 million tons. In the year beginning October 1, 1942, 120 million tons of grains, exclusive of corn in silage, were fed. This is the largest quantity on record. It is more than twice the quantity fed in each of the years following the droughts of 1934 and 1936, and it is much above the nearly 95 million tons fed in 1920, 1923, and 1932, which were the highest figures of the 1920's and 1930's. Since World War II, the largest quantity fed was the nearly 104 million tons in 1951-52. The quantity of corn fed in recent years has been about 5 percent less than during World War II, but the quantity of wheat fed has been only a fraction of the wartime figure. A larger than average quantity of wheat was fed during World War II, and this accounts partly for the large total tonnage of grain fed. Corn hybrids, which have higher yields than open-pollinated varieties, were among the reasons for the increased production during and since the war. Good weather and better tillage methods resulting from greater mechanization were contributing factors.

TABLE 1.—*Grain and other concentrates fed to livestock, 1909-56*

| Year beginning Oct. 1 | Corn excluding corn in silage <sup>1</sup> | Oats <sup>1</sup>     | Barley <sup>1</sup>  | Sorghum grains <sup>2</sup> | Wheat and rye <sup>2</sup> | Commercial byproducts      |                             |                            |                         |                    | All concentrates <sup>1</sup> | Corn in silage <sup>1</sup> |                    |
|-----------------------|--|-----------------------|----------------------|-----------------------------|----------------------------|----------------------------|-----------------------------|----------------------------|-------------------------|--------------------|-------------------------------|-----------------------------|--------------------|
|                       |  |                       |                      |                             |                            | Oilseed meals <sup>3</sup> | Animal protein <sup>4</sup> | Plant protein <sup>5</sup> | Mill-feeds <sup>6</sup> | Other <sup>7</sup> |                               |                             | Total <sup>8</sup> |
| 1909                  | 1,000 tons<br>64, 050                      | 1,000 tons<br>14, 000 | 1,000 tons<br>3, 400 | 1,000 tons<br>---           | 1,000 tons<br>---          | 1,000 tons<br>---          | 1,000 tons<br>---           | 1,000 tons<br>---          | 1,000 tons<br>---       | 1,000 tons<br>---  | 1,000 tons<br>8, 300          | 1,000 tons<br>89, 750       | 1,000 tons<br>650  |
| 1910                  | 71, 166                                    | 15, 900               | 2, 900               | ---                         | ---                        | ---                        | ---                         | ---                        | ---                     | ---                | ---                           | 98, 666                     | 780                |
| 1911                  | 63, 066                                    | 13, 200               | 4, 100               | ---                         | ---                        | ---                        | ---                         | ---                        | ---                     | ---                | ---                           | 89, 266                     | 910                |
| 1912                  | 71, 845                                    | 18, 100               | 5, 100               | ---                         | ---                        | ---                        | ---                         | ---                        | ---                     | ---                | ---                           | 104, 245                    | 1, 170             |
| 1913                  | 58, 029                                    | 16, 100               | 3, 800               | ---                         | ---                        | ---                        | ---                         | ---                        | ---                     | ---                | ---                           | 87, 429                     | 1, 560             |
| 1914                  | 61, 044                                    | 13, 900               | 4, 800               | ---                         | ---                        | ---                        | ---                         | ---                        | ---                     | ---                | ---                           | 89, 644                     | 1, 950             |
| 1915                  | 69, 044                                    | 18, 500               | 6, 500               | ---                         | ---                        | ---                        | ---                         | ---                        | ---                     | ---                | ---                           | 103, 944                    | 2, 340             |
| 1916                  | 58, 162                                    | 15, 800               | 4, 000               | ---                         | ---                        | ---                        | ---                         | ---                        | ---                     | ---                | ---                           | 87, 762                     | 2, 730             |
| 1917                  | 68, 483                                    | 18, 600               | 5, 200               | ---                         | ---                        | ---                        | ---                         | ---                        | ---                     | ---                | ---                           | 102, 583                    | 2, 990             |
| 1918                  | 60, 962                                    | 18, 700               | 7, 000               | ---                         | ---                        | ---                        | ---                         | ---                        | ---                     | ---                | ---                           | 96, 762                     | 3, 250             |
| 1919                  | 64, 568                                    | 15, 800               | 5, 700               | ---                         | ---                        | ---                        | ---                         | ---                        | ---                     | ---                | ---                           | 96, 168                     | 3, 536             |
| 1920                  | 70, 450                                    | 18, 500               | 6, 000               | ---                         | ---                        | ---                        | ---                         | ---                        | ---                     | ---                | ---                           | 104, 750                    | 3, 750             |
| 1921                  | 71, 475                                    | 15, 700               | 5, 500               | ---                         | ---                        | ---                        | ---                         | ---                        | ---                     | ---                | ---                           | 102, 275                    | 3, 625             |
| 1922                  | 67, 990                                    | 16, 500               | 5, 800               | ---                         | ---                        | ---                        | ---                         | ---                        | ---                     | ---                | ---                           | 100, 690                    | 3, 510             |
| 1923                  | 70, 023                                    | 17, 600               | 7, 100               | ---                         | ---                        | ---                        | ---                         | ---                        | ---                     | ---                | ---                           | 105, 423                    | 3, 777             |
| 1924                  | 54, 931                                    | 19, 500               | 6, 300               | ---                         | ---                        | ---                        | ---                         | ---                        | ---                     | ---                | ---                           | 91, 631                     | 3, 169             |
| 1925                  | 64, 734                                    | 19, 300               | 5, 700               | ---                         | ---                        | ---                        | ---                         | ---                        | ---                     | ---                | ---                           | 101, 134                    | 3, 766             |
| 1926                  | 63, 289                                    | 16, 249               | 2, 978               | 2, 003                      | 1, 396                     | 2, 703                     | 805                         | 751                        | 4, 970                  | 2, 433             | 11, 662                       | 97, 577                     | 3, 864             |
| 1927                  | 66, 850                                    | 15, 909               | 3, 991               | 2, 262                      | 1, 696                     | 2, 258                     | 848                         | 794                        | 5, 120                  | 2, 557             | 11, 577                       | 102, 285                    | 3, 581             |
| 1928                  | 62, 294                                    | 17, 867               | 5, 414               | 2, 101                      | 1, 902                     | 2, 580                     | 868                         | 775                        | 5, 178*                 | 2, 516             | 11, 917                       | 101, 495                    | 3, 749             |
| 1929                  | 61, 217                                    | 15, 932               | 5, 416               | 1, 360                      | 3, 448                     | 2, 642                     | 876                         | 725                        | 5, 199                  | 2, 586             | 12, 028                       | 99, 401                     | 3, 592             |
| 1930                  | 48, 867                                    | 17, 482               | 5, 512               | 960                         | 5, 754                     | 2, 392                     | 851                         | 590                        | 5, 033                  | 2, 533             | 11, 399                       | 89, 974                     | 3, 590             |
| 1931                  | 60, 509                                    | 15, 795               | 4, 187               | 1, 755                      | 5, 210                     | 2, 166                     | 817                         | 615                        | 4, 449                  | 2, 371             | 10, 418                       | 97, 874                     | 3, 772             |
| 1932                  | 69, 501                                    | 15, 095               | 4, 486               | 1, 800                      | 3, 636                     | 2, 107                     | 880                         | 630                        | 4, 465                  | 2, 456             | 10, 538                       | 105, 056                    | 3, 997             |
| 1933                  | 50, 252                                    | 9, 565                | 1, 778               | 1, 464                      | 3, 318                     | 2, 069                     | 925                         | 788                        | 4, 350                  | 2, 516             | 10, 648                       | 86, 025                     | 3, 873             |
| 1934                  | 40, 432                                    | 8, 726                | 2, 116               | 472                         | 3, 392                     | 2, 152                     | 871                         | 718                        | 4, 502                  | 2, 454             | 10, 637                       | 65, 835                     | 3, 662             |

See footnotes on p. 7.



TABLE 1.—*Grain and other concentrates fed to livestock, 1909-56—Continued*

| Year beginning Oct. 1 | Corn excluding corn in silage <sup>1</sup> | Oats <sup>1</sup>     | Barley <sup>1</sup>  | Sorghum grains <sup>2</sup> | Wheat and rye <sup>2</sup> | Commercial byproducts      |                             |                            |                         |                      | All concentrates <sup>1</sup> | Corn in silage <sup>1</sup> |                      |
|-----------------------|--|-----------------------|----------------------|-----------------------------|----------------------------|----------------------------|-----------------------------|----------------------------|-------------------------|----------------------|-------------------------------|-----------------------------|----------------------|
|                       |  |                       |                      |                             |                            | Oilseed meals <sup>3</sup> | Animal protein <sup>4</sup> | Plant protein <sup>5</sup> | Mill-feeds <sup>6</sup> | Other <sup>7</sup>   |                               |                             | Total <sup>8</sup>   |
| 1935                  | 1,000 tons<br>51, 434                      | 1,000 tons<br>15, 302 | 1,000 tons<br>3, 713 | 1,000 tons<br>1, 560        | 1,000 tons<br>3, 870       | 1,000 tons<br>2, 772       | 1,000 tons<br>1, 003        | 1,000 tons<br>924          | 1,000 tons<br>4, 827    | 1,000 tons<br>2, 512 | 1,000 tons<br>12, 038         | 1,000 tons<br>87, 917       | 1,000 tons<br>4, 304 |
| 1936                  | 38, 678                                    | 13, 310               | 2, 528               | 3, 108                      | 2, 042                     | 3, 108                     | 1, 043                      | 892                        | 4, 778                  | 2, 670               | 12, 491                       | 69, 845                     | 3, 864               |
| 1937                  | 51, 798                                    | 16, 133               | 3, 514               | 1, 878                      | 4, 732                     | 3, 397                     | 969                         | 820                        | 4, 572                  | 2, 616               | 12, 374                       | 90, 429                     | 4, 752               |
| 1938                  | 54, 560                                    | 15, 210               | 4, 081               | 1, 808                      | 4, 244                     | 3, 440                     | 1, 048                      | 871                        | 4, 886                  | 2, 749               | 12, 994                       | 92, 897                     | 4, 240               |
| 1939                  | 58, 107                                    | 14, 177               | 4, 832               | 1, 407                      | 4, 310                     | 3, 649                     | 1, 121                      | 905                        | 4, 761                  | 2, 726               | 13, 162                       | 95, 995                     | 4, 360               |
| 1940                  | 58, 725                                    | 18, 099               | 5, 480               | 2, 328                      | 2, 604                     | 4, 405                     | 1, 215                      | 1, 120                     | 4, 887                  | 2, 781               | 14, 408                       | 101, 644                    | 4, 494               |
| 1941                  | 65, 710                                    | 16, 762               | 6, 256               | 3, 099                      | 5, 922                     | 4, 639                     | 1, 172                      | 1, 548                     | 4, 657                  | 2, 884               | 14, 900                       | 112, 649                    | 4, 281               |
| 1942                  | 77, 004                                    | 19, 624               | 7, 123               | 2, 980                      | 12, 906                    | 6, 089                     | 1, 174                      | 1, 578                     | 4, 884                  | 2, 574               | 16, 299                       | 135, 936                    | 4, 458               |
| 1943                  | 75, 835                                    | 17, 196               | 6, 120               | 2, 711                      | 14, 312                    | 6, 255                     | 1, 282                      | 1, 575                     | 5, 102                  | 2, 488               | 16, 702                       | 132, 876                    | 4, 413               |
| 1944                  | 71, 243                                    | 16, 917               | 4, 441               | 3, 622                      | 8, 792                     | 6, 212                     | 1, 125                      | 1, 769                     | 5, 638                  | 2, 697               | 17, 441                       | 122, 456                    | 4, 836               |
| 1945                  | 72, 141                                    | 23, 589               | 4, 092               | 2, 355                      | 7, 546                     | 5, 810                     | 1, 058                      | 1, 395                     | 5, 051                  | 3, 110               | 16, 424                       | 126, 147                    | 4, 788               |
| 1946                  | 69, 610                                    | 19, 270               | 2, 973               | 2, 110                      | 3, 862                     | 5, 837                     | 1, 062                      | 1, 736                     | 6, 264                  | 3, 325               | 18, 224                       | 116, 049                    | 5, 166               |
| 1947                  | 58, 767                                    | 17, 396               | 3, 210               | 1, 831                      | 5, 568                     | 6, 241                     | 1, 149                      | 1, 434                     | 5, 658                  | 3, 296               | 17, 778                       | 104, 550                    | 4, 592               |
| 1948                  | 66, 022                                    | 19, 749               | 3, 668               | 2, 081                      | 2, 802                     | 7, 316                     | 1, 252                      | 1, 433                     | 5, 107                  | 3, 754               | 18, 862                       | 113, 184                    | 5, 476               |
| 1949                  | 73, 611                                    | 17, 851               | 3, 178               | 1, 787                      | 3, 234                     | 7, 867                     | 1, 281                      | 1, 501                     | 4, 968                  | 3, 996               | 19, 613                       | 119, 274                    | 5, 748               |
| 1950                  | 72, 276                                    | 19, 284               | 3, 454               | 3, 960                      | 3, 168                     | 8, 659                     | 1, 314                      | 1, 949                     | 5, 005                  | 4, 061               | 20, 988                       | 123, 130                    | 5, 842               |
| 1951                  | 74, 120                                    | 19, 587               | 3, 572               | 3, 213                      | 3, 224                     | 9, 130                     | 1, 434                      | 1, 473                     | 5, 217                  | 4, 324               | 21, 638                       | 125, 354                    | 5, 614               |
| 1952                  | 66, 648                                    | 17, 939               | 3, 083               | 2, 157                      | 2, 596                     | 8, 916                     | 1, 537                      | 1, 365                     | 4, 983                  | 4, 778               | 21, 579                       | 114, 002                    | 6, 666               |
| 1953                  | 68, 569                                    | 17, 768               | 3, 825               | 2, 190                      | 2, 624                     | 8, 676                     | 1, 911                      | 1, 473                     | 4, 942                  | 5, 307               | 22, 309                       | 117, 285                    | 7, 317               |
| 1954                  | 64, 204                                    | 19, 944               | 4, 627               | 3, 468                      | 2, 474                     | 8, 521                     | 1, 638                      | 1, 523                     | 4, 870                  | 5, 678               | 22, 230                       | 116, 947                    | 8, 275               |
| 1955                  | 68, 892                                    | 20, 130               | 5, 128               | 4, 464                      | 1, 902                     | 9, 178                     | 1, 779                      | 1, 604                     | 4, 725                  | 5, 243               | 22, 529                       | 123, 045                    | 7, 493               |
| 1956                  | 71, 273                                    | 17, 336               | 4, 652               | 4, 870                      | 2, 024                     | 10, 023                    | 1, 630                      | 1, 538                     | 4, 794                  | 5, 100               | 23, 085                       | 123, 240                    | 8, 188               |

See footnotes on p. 7.

<sup>1</sup> The data for the years before 1926, which are rounded, are much less detailed and probably less accurate than those for the years since 1926. Before 1926, the data for oats are for the crop year instead of the year beginning October 1. For years before 1926, barley, sorghum grains, wheat, and rye were grouped together and reported under barley. Concentrates in this table include grains and commercial byproduct feeds whether fed as such or in mixed or formula feeds. Corn silage is considered a roughage in this report, and therefore corn in silage is not included as a grain. It is shown as a separate item, however, in the right-hand column. If corn in silage is added to the corn in column 1, it will agree with the total corn fed as reported in Grain and Feed Statistics (44). The corn in silage was calculated by States by multiplying the acreage harvested for silage by the average yield of all corn. There are no data on acreage before 1919. The data before 1919 on the tonnage of silage and of corn in silage are estimates made by the writer. "All concentrates" is the same as that reported in table 1 of Feed Sta-

tistics if corn in silage and skim milk fed are added to "all concentrates."

<sup>2</sup> Before 1926, included with barley.

<sup>3</sup> Includes cottonseed meal, soybean meal, linseed meal, peanut meal, and copra.

<sup>4</sup> Includes tankage, meat scraps, fishmeal, and dried milk products.

<sup>5</sup> Includes gluten feed and meal, brewers' dried grains, and distillers' dried grain.

<sup>6</sup> Includes wheat and rice millfeeds.

<sup>7</sup> Includes dried and molasses beet pulp, alfalfa meal, molasses, hominy, oat millfeed, screenings, and so on.

<sup>8</sup> 2.5 million tons were added to the byproduct feeds given for 1909 to 1919 in table 7 of the January 1943 Feed Situation (43) 3 million tons were added for 1920 to 1925 to the same column of figures. The data for 1926 to date are published in several issues of Grain and Feed Statistics (44).

The only years since 1909 in which the total quantity of grain fed was less than 80 million tons were 1913, 1914, 1916, and 7 years in the 1930's. Especially poor corn crops were produced in 1913, 1924, 1930, 1934, 1936, and 1947. In 1924, the oat crop was large; and in 1930, a large quantity of wheat was fed and the oat and barley crops were large. All of this together partly offset the poor corn crops.

The years in which more than 94 million tons of grain were fed were 1912, 1915, 1920, 1923, 1932, and all years since 1940, except 1947 and 1952. In most of these years, production of corn was high compared with the average. The quantity of grain fed depends largely on the corn crop, although large quantities of oats, barley, or wheat may help to offset a poor corn crop. Before World War II, on the average, less than 125 million bushels of wheat were fed from a crop of 800 million bushels. During the war, wheat crops were larger; shipping space was scarce; wheat was imported for feed; and more wheat was fed. In recent years, although wheat crops in this country have been large, the quantity fed has been below the quantity fed in most prewar years.

### Commercial Byproduct Feeds

Commercial byproduct feeds consist of feeds with a relatively high protein content, such as oilseed meals and animal proteins, and those of medium-to-low protein content, such as millfeeds. The chief use of the high-protein feeds is to raise the average protein content of the ration, by mixing them or feeding them with grains or other low-protein feeds. Oilseed meals consist of cottonseed, soybean, linseed, peanut oil, and copra meal (table 23). Copra is imported.

Currently, the most important of these feeds is soybean meal. During the last 3 years, it made up more than 60 percent of all oil meals fed; just before World War II, it accounted for only a third of the total. Cottonseed meal is next in importance. In the last few years, it has accounted for less than 30 percent of the total, whereas 20 years ago it amounted to two-thirds or more of the total tonnage of oilseed meals. Linseed meal fed in recent years has amounted to around 400,000 to 500,000 tons, of a total of 8.5 to 10.0 million tons of oilseed meals. The total tonnage of oilseed meals fed in recent years was nearly 3 times as large as the tonnage fed 20 years earlier. These feeds are mainly byproducts of the fats and oils industry and of cotton production. They are not produced directly for feed, even though they may be needed to help raise the protein content of livestock rations. Probably more than two-thirds of all oilseed meals fed are fed in formula feeds while a much higher percentage of soybean meal goes into formula feeds (21).

Tankage and meat scraps are byproducts of the rendering and meat-packing industry. They tend to vary in volume with operations in this industry. In recent years, between 1,000,000 and 1,100,000 tons were produced. About 400,000 tons of fishmeal were produced in recent years for animal feed, as well as more than 150,000 tons of dried milk products (skim milk, buttermilk, and whey). Gluten feed and meal, byproducts of the wet milling of corn, are important high-protein feeds. Corn refiners have increased production from 500,000 to 600,000 tons before World War II to more than a million tons in recent years. Production of brewers' dried grains has averaged more than 200,000 tons for several years, while around 250,000 tons of distillers' dried grains have been produced annually in the last several



years. Consumption of all high-protein feeds totaled more than 13 million tons in 1956, compared with less than 40 percent as much 20 years earlier.

Wheat millfeeds—byproducts of the flour-milling industry—have totaled between 4 and 5 million tons each year in recent years. The use of alfalfa meal increased greatly during World War II, when production increased to nearly 1,200,000 tons and has held close to that level since. About 400,000 to 500,000 tons of dried beet pulp were produced in recent years.

No official estimates of production of hominy feed, oat millfeed, molasses, and screenings are available. The combined tonnage of these feeds in recent years has been tentatively estimated at 3.5 million tons. Molasses accounted for much of the increase over earlier years. Consumption of commercial byproduct feeds thus totaled more than 23 million tons in 1956-57, compared with about 12 million tons 20 years earlier.

The principal kinds of livestock to which the various byproduct feeds are fed, either in formula feeds or alone, are listed below:

| <i>Feed</i>                               | <i>Principal classes of livestock to which fed</i> |
|---|--|
| Corn gluten feed and meal.....            | Dairy cattle.                                      |
| Cottonseed meal and cake.....             | Dairy cattle, beef cattle.                         |
| Linseed meal.....                         | Dairy cattle, beef cattle, hogs.                   |
| Soybean meal.....                         | Poultry, dairy cattle, hogs.                       |
| Peanut meal.....                          | Dairy cattle, poultry, hogs.                       |
| Copra meal.....                           | Dairy cattle, some to poultry (west coast).        |
| Tankage and meat scraps.....              | Hogs, poultry.                                     |
| Fishmeal.....                             | Poultry, hogs.                                     |
| Wheat bran.....                           | Dairy cattle, poultry.                             |
| Wheat middlings.....                      | Poultry, dairy cattle, hogs.                       |
| Hominy feed.....                          | Dairy cattle and some to poultry.                  |
| Rye products and rice products.....       | Dairy cattle, poultry.                             |
| Oats, barley, and buckwheat products..... | Do.  |
| Brewers' and distillers' dried grain..... | Dairy cattle.                                      |
| Screenings.....                           | Do.  |
| Beet pulp.....                            | Dairy cattle, beef cattle, sheep.                  |
| Molasses.....                             | Dairy cattle, beef cattle.                         |
| Alfalfa meal.....                         | Poultry, dairy cattle, hogs.                       |
| Soybeans fed whole.....                   | Hogs, dairy cattle.                                |
| Peanuts.....                              | Hogs.  |
| Cottonseed fed whole.....                 | Dairy and beef cattle.                             |
| Cowpeas fed whole.....                    | Do.  |
| Velvet beans fed or grazed.....           | Do.  |
| Skim milk fed on farms.....               | Hogs, calves, poultry.                             |
| Dried skim milk.....                      | Poultry, calves in market-milk areas.              |

### **Seeds and Skim Milk**

Considerable tonnages of cottonseed, soybeans, cowpeas, velvet beans, peanuts, and other seed crops are fed to or grazed off by livestock, especially in the South (table 24). The tonnage of these feeds was estimated at more than 2 million tons in 1940 but in recent years, it has decreased to 600,000 tons or less. Velvet beans are usually grazed by cattle. Peanuts are usually harvested by turning the hogs in to root them up. Some peanuts, cottonseed, and soybeans are fed after they are harvested. Peanuts and soybeans contain oil. When fed to hogs, they are likely to make soft pork unless they are properly proportioned with other feeds. Skim milk fed as a liquid amounts to the dry equivalent of 1¼ million tons. This is less than the quantity of other animal-protein feeds, but it is still important in the feeding of calves and pigs.

## Formula Feeds<sup>5</sup>

Very few statistics on the formula-feed industry are available. The industry had its beginnings early in this century, but it did not become important until the 1920's. By 1939, according to the census, 13 million tons of prepared feeds were manufactured. During World War II, there was a tremendous increase in volume. In 1943, an estimated 29 million tons were produced (24).

According to a survey in 1944, about 40 percent of all feed fed to chickens in January was commercial scratch and mash (51).

A recent preliminary report of the Bureau of the Census (52) shows that in 1947, 22.3 million tons of poultry and livestock feed were mixed by feed manufacturers. Of this, poultry feed accounted for 11.7 million tons; dairy feed, 5.3 million tons; and feed for other kinds of livestock, 5.3 million tons. In 1954, 26.8 million tons of poultry and livestock feed were manufactured, of which 15.4 million tons were poultry feed, 4.7 million tons were dairy feed, and 2.3 million tons were hog feed.

Reports by the Agricultural Marketing Service (48, 38) show that in 1956, 28 percent of the total concentrate ration fed to herds belonging to dairy reporters was commercial mixed (formula) dairy feed. In the New England States, most dairy and poultry rations consist of formula feed. The industry has thus attained great importance, especially as a supplier of feeds for poultry. The statistics for feeds given in this report include both the feed fed alone and that in formula and custom-mixed feed.<sup>6</sup>

The feed materials used in the manufacture of formula poultry and dairy feeds probably vary considerably from season to season and in different parts of the country, depending on prices. Data collected from feed manufacturers for 1940 (18, tables 19 to 21) show that wheat and corn made up a high percentage of the commercial scratch feeds. In the West, wheat was more important than corn. In some areas, grain sorghums were important. Grain made up about 45 percent of poultry mashes, starters, and growers, with wheat byproducts accounting for 25 percent and high-protein feeds for 20 percent of the tonnage. The percentages of the different feed materials varied considerably in different regions.

According to the 1940 survey, grains made up only about 15 percent of the commercial dairy feeds, wheat millfeeds 15 percent, high-protein feeds 26 percent, and corn byproducts 10 percent. There appeared to be more variation in composition of dairy mixed feed from one region to another than in composition of poultry mashes. There is a large interstate movement in the eastern half of the United States of commercial mixed feeds as well as grains and byproduct feeds (21, 24).

In 1949-50, about 20 percent of all concentrates fed in this country were formula feeds (21). In many States, more than 50 percent of all concentrates were formula feeds. Poultry used 61 percent of all formula feeds and dairy cattle 22 percent. There was a large net movement of formula feeds out of New York, Illinois, Ohio, Missouri, and Tennessee into the Northeastern and Southeastern States. Formula feeds accounted for the following percentages of the total quantity of selected feeds fed in 1949-50: Corn, 9; oats, 11; barley, 27; sorghum

<sup>5</sup> Formula feeds are feeds manufactured by mixing several ingredients to a formula. Most formula feeds are registered and have brand names.

<sup>6</sup> Custom-mixed feed is feed mixed to the order of the farmer. Usually, the farmer supplies a part or all of the grain to be used in the mixture.

grains, 33; animal proteins, 81; cottonseed meal and cake, 28; soybean meal, 86; linseed meal, 61; gluten feed and meal, 87; and molasses, 76. Formula feeds were estimated to make up 47 percent of all concentrates fed to poultry and 27 percent of those fed to dairy cattle in 1949-50.

### Hay, Silage, and Other Harvested Roughages

Clover and timothy formerly were the two most important kinds of hay. In recent years, tonnage of alfalfa or alfalfa mixtures has greatly exceeded that of clover and timothy, and it has accounted for about 40 percent of the tonnage of all hay. In 1956, a total of 107.5 million tons of hay was produced, which included more than 61 million tons of alfalfa, 21 million tons of clover and timothy, and 4 million tons of lespedeza. The rest was made up of small grains cut for hay, soybeans, cowpeas, sweet clover, peanuts, and so on. The average protein content of all hay is considerably higher than it was three or four decades ago because of the increase in alfalfa acreage (26), and the fact that alfalfa has more protein than clover-timothy hay.

About 25 percent more hay has been consumed in this country in recent years than was consumed from 1909 to 1919 (table 2). The increase in roughage-consuming livestock numbers has been less than 25 percent and more hay has been fed per head in recent years. In addition to this shift away from grass hays to legumes, greater attention is given to improving the quality of the hay crop by better methods of harvesting and curing. Losses in quality because of delay in harvesting and wet weather are great. Methods of harvesting that permit a shorter time from cutting to storing have been developed. These methods aim to save more of the leaves and green color of the hay. Taking all of these changes into account, there is no doubt that the protein content, as well as the quality of hay fed, has been substantially improved.

More than 100 million tons of hay excluding grass silage are used annually, and hay accounts for about 15 percent of the total supply of feed for all livestock (table 3). Grass silage is a way of storing hay crops with a minimum of loss in feeding value. As more conservation practices are put into effect, it is probable that greater attention will be given to hay and pasture crops and that they will supply an even larger proportion of the feed for livestock than at present.

Silage rose to importance as a feed for livestock from 1900 to 1920. In 1920, about 28 million tons of corn silage was put in silos (table 2). In recent years, more than 50 million tons have been harvested in this way. Most of it is fed to dairy cattle. In the Southern Plains, sorghum silage is an important feed. From 4 to 9 million tons have been produced in recent years. Grass silage is coming into use. No annual estimates are published, but it is believed that around 7 million tons were produced in recent years (4). Silage is consumed without much waste and it furnishes a succulent feed, summer or winter. It is especially useful where weather makes it difficult to cure hay. Usually more nutrients are obtained by ensiling a crop than when the forage is cured as dry fodder. More than 1½ million tons of wet beet pulp are available as feed annually in sugar-beet areas. The pulp is fed chiefly to cattle and lambs being fattened for market.



TABLE 2.—*Hay and other harvested forage fed to livestock, 1909-56*

| Year beginning Oct. 1 | Hay <sup>1</sup> | Corn silage <sup>2</sup> | Sorghum silage <sup>3</sup> | Wet beet pulp <sup>4</sup> | Grass silage <sup>5</sup> | Corn stover <sup>6</sup> | Sorghum forage <sup>7</sup> | Straw <sup>8</sup> |
|-----------------------|------------------|--------------------------|-----------------------------|----------------------------|---------------------------|--------------------------|-----------------------------|--------------------|
|                       | 1,000 tons       | 1,000 tons               | 1,000 tons                  | 1,000 tons                 | 1,000 tons                | 1,000 tons               | 1,000 tons                  | 1,000 tons         |
| 1909                  | 86,170           | 5,000                    | ---                         | ---                        | ---                       | 32,200                   | ---                         | 24,500             |
| 1910                  | 76,184           | 6,000                    | ---                         | ---                        | ---                       | 34,850                   | ---                         | 32,000             |
| 1911                  | 66,573           | 7,000                    | ---                         | ---                        | ---                       | 30,500                   | ---                         | 44,000             |
| 1912                  | 83,066           | 9,000                    | ---                         | ---                        | ---                       | 35,750                   | ---                         | 23,000             |
| 1913                  | 79,022           | 12,000                   | ---                         | ---                        | ---                       | 27,800                   | ---                         | 37,500             |
| 1914                  | 81,605           | 15,000                   | ---                         | ---                        | ---                       | 30,250                   | ---                         | 36,500             |
| 1915                  | 91,440           | 18,000                   | ---                         | ---                        | ---                       | 32,900                   | ---                         | 29,000             |
| 1916                  | 97,230           | 21,000                   | ---                         | ---                        | ---                       | 27,550                   | ---                         | 31,000             |
| 1917                  | 87,024           | 23,000                   | ---                         | ---                        | ---                       | 32,600                   | ---                         | 37,500             |
| 1918                  | 82,290           | 25,000                   | ---                         | ---                        | ---                       | 27,150                   | ---                         | 46,000             |
| 1919                  | 92,177           | 26,866                   | 1,000                       | 500                        | ---                       | 25,500                   | 6,500                       | 28,000             |
| 1920                  | 84,617           | 27,986                   | 1,000                       | 500                        | ---                       | 28,150                   | 6,500                       | 29,000             |
| 1921                  | 91,647           | 26,979                   | 1,000                       | 500                        | ---                       | 26,000                   | 6,500                       | 23,500             |
| 1922                  | 93,321           | 27,568                   | 1,000                       | 500                        | ---                       | 23,050                   | 6,500                       | 22,000             |
| 1923                  | 90,080           | 29,874                   | 1,000                       | 500                        | ---                       | 24,100                   | 6,500                       | 20,500             |
| 1924                  | 89,430           | 28,737                   | 1,000                       | 500                        | ---                       | 18,450                   | 6,500                       | 23,500             |
| 1925                  | 82,360           | 29,343                   | 1,000                       | 500                        | ---                       | 22,300                   | 6,500                       | 22,500             |
| 1926                  | 76,736           | 30,493                   | 900                         | 500                        | ---                       | 19,550                   | 6,500                       | 26,500             |
| 1927                  | 92,482           | 29,926                   | 1,000                       | 500                        | ---                       | 20,100                   | 6,500                       | 7,400              |
| 1928                  | 89,327           | 30,000                   | 1,000                       | 500                        | ---                       | 19,850                   | 6,500                       | 10,000             |
| 1929                  | 86,624           | 29,335                   | 1,000                       | 628                        | ---                       | 18,200                   | 6,683                       | 15,000             |
| 1930                  | 76,226           | 30,026                   | 1,458                       | 572                        | ---                       | 14,650                   | 6,326                       | 30,000             |
| 1931                  | 74,228           | 32,875                   | 775                         | 1,112                      | ---                       | 17,600                   | 7,180                       | 30,000             |
| 1932                  | 81,485           | 32,073                   | 1,345                       | 1,340                      | ---                       | 19,850                   | 8,071                       | 24,500             |
| 1933                  | 78,395           | 32,705                   | 1,791                       | 1,715                      | ---                       | 15,900                   | 8,418                       | 34,500             |
| 1934                  | 63,110           | 35,093                   | 2,244                       | 1,198                      | ---                       | 9,050                    | 7,417                       | 49,000             |



|      |          |         |        |          |         |         |         |
|------|----------|---------|--------|----------|---------|---------|---------|
| 1935 | 81, 424  | 37, 563 | 3, 133 | 1, 454   | 14, 100 | 12, 052 | 18, 500 |
| 1936 | 77, 902  | 33, 690 | 2, 874 | 1, 543   | 9, 050  | 6, 579  | 33, 500 |
| 1937 | 76, 252  | 37, 522 | 2, 988 | 1, 600   | 14, 800 | 7, 713  | 22, 000 |
| 1938 | 87, 821  | 35, 187 | 4, 512 | 1, 858   | 13, 850 | 12, 553 | 12, 500 |
| 1939 | 90, 874  | 33, 200 | 4, 358 | 1, 711   | 13, 300 | 11, 716 | 11, 000 |
| 1940 | 93, 307  | 34, 615 | 6, 217 | 1, 625   | 11, 900 | 16, 110 | 7, 900  |
| 1941 | 96, 862  | 33, 751 | 7, 896 | 1, 556   | 12, 100 | 17, 069 | 11, 000 |
| 1942 | 105, 162 | 33, 445 | 6, 032 | 1, 688   | 13, 000 | 13, 640 | 11, 000 |
| 1943 | 105, 514 | 33, 518 | 4, 733 | 1, 009   | 10, 800 | 10, 982 | 18, 000 |
| 1944 | 100, 802 | 34, 888 | 5, 644 | 923      | 9, 600  | 11, 552 | 22, 000 |
| 1945 | 102, 953 | 35, 214 | 3, 570 | 1, 142   | 400     | 9, 543  | 15, 000 |
| 1946 | 104, 122 | 36, 031 | 3, 587 | 1, 446   | 800     | 8, 181  | 11, 500 |
| 1947 | 101, 637 | 34, 290 | 3, 338 | 1, 834   | 1, 500  | 5, 666  | 12, 500 |
| 1948 | 96, 310  | 37, 592 | 4, 318 | 1, 385   | 2, 600  | 6, 659  | 11, 500 |
| 1949 | 94, 386  | 40, 221 | 3, 640 | 1, 389   | 2, 700  | 5, 632  | 15, 240 |
| 1950 | 103, 041 | 41, 002 | 5, 176 | 1, 777   | 4, 700  | 6, 567  | 12, 730 |
| 1951 | 109, 562 | 38, 949 | 5, 858 | 1, 764   | 8, 440  | 6, 072  | 11, 530 |
| 1952 | 106, 628 | 43, 174 | 4, 218 | 1, 593   | 3, 600  | 4, 069  | 19, 850 |
| 1953 | 107, 759 | 47, 855 | 6, 506 | 1, 641   | 3, 950  | 5, 535  | 16, 560 |
| 1954 | 108, 150 | 52, 559 | 7, 590 | 1, 823   | 7, 000  | 3, 850  | 16, 560 |
| 1955 | 111, 499 | 52, 245 | 8, 563 | (1, 600) | 6, 660  | 3, 600  | 14, 570 |
| 1956 | 107, 533 | 54, 292 | 8, 843 | (1, 600) | 7, 000  | 3, 800  | 7, 560  |
|      |          |         |        |          | 4, 000  | 4, 613  | 10, 400 |

<sup>1</sup> Disappearance of hay, year beginning May 1.

<sup>2</sup> AMS official estimates of production beginning 1919. Rough estimate by the writer for years before 1919. See table 1 for corn (grain) in silage.

<sup>3</sup> AMS official estimates of production beginning 1929.

<sup>4</sup> AMS official estimates of production beginning 1930. 1955 and 1956 estimated by the writer.

<sup>5</sup> Rough estimate by the writer based partly on census data.

<sup>6</sup> Rough estimate by the writer. It was assumed that the corn cut and shocked dropped gradually from 40 percent of the

acreage in 1909 to 3 percent in 1955, and that the yield of fodder per acre was equal to the grain. Some additional allowance was made for fodder topped and stripped. See U. S. Dept. Agr. Statist. Bul. 129, table 5 (3).

<sup>7</sup> AMS official estimate of production beginning 1929.

<sup>8</sup> Rough estimate by the writer, all years. It was assumed that on the average for the United States each kind of livestock would get approximately the same quantity of dry roughage equivalent per head each year, and straw was used to equalize this quantity.

TABLE 3.—Percentage of total feed consumed by different kinds of livestock, derived from different sources, averages 1909-55

ALL LIVESTOCK

| Period  | Corn    | Other grain | Commer-<br>cial by-<br>products | Seeds and<br>skim milk | Hay     | Silage and<br>beet pulp | Stover<br>and straw | Pasture | Total   |
|---------|---------|-------------|---------------------------------|------------------------|---------|-------------------------|---------------------|---------|---------|
|         | Percent | Percent     | Percent                         | Percent                | Percent | Percent                 | Percent             | Percent | Percent |
| 1909-19 | 24.1    | 7.1         | 4.6                             | 1.9                    | 12.5    | 0.9                     | 7.9                 | 41.0    | 100     |
| 1920-29 | 24.8    | 8.4         | 5.1                             | 2.0                    | 13.4    | 1.9                     | 5.9                 | 38.5    | 100     |
| 1930-39 | 22.4    | 9.0         | 6.0                             | 2.6                    | 13.4    | 2.6                     | 5.8                 | 38.2    | 100     |
| 1940-49 | 23.4    | 10.3        | 7.6                             | 1.7                    | 13.8    | 2.3                     | 3.2                 | 37.7    | 100     |
| 1950-55 | 23.2    | 8.9         | 9.8                             | 1.1                    | 14.8    | 3.3                     | 2.4                 | 36.5    | 100     |

DAIRY CATTLE

|         |      |     |     |     |      |     |     |      |     |
|---------|------|-----|-----|-----|------|-----|-----|------|-----|
| 1909-19 | 6.4  | 5.5 | 5.9 | 3.1 | 21.1 | 3.5 | 9.4 | 45.1 | 100 |
| 1920-29 | 7.5  | 6.1 | 6.8 | 2.8 | 23.3 | 6.3 | 5.4 | 41.8 | 100 |
| 1930-39 | 5.9  | 7.6 | 7.6 | 3.0 | 24.0 | 7.4 | 4.5 | 40.0 | 100 |
| 1940-49 | 9.6  | 7.6 | 7.0 | 2.0 | 26.5 | 6.3 | 2.0 | 39.0 | 100 |
| 1950-55 | 10.4 | 7.4 | 7.4 | 1.5 | 28.9 | 8.8 | .8  | 34.8 | 100 |

BEEF CATTLE

|         |      |     |     |     |      |     |      |      |     |
|---------|------|-----|-----|-----|------|-----|------|------|-----|
| 1909-19 | 4.1  | 1.2 | 1.3 | 0.5 | 5.8  | 0.6 | 10.8 | 75.7 | 100 |
| 1920-29 | 5.5  | 1.6 | 2.0 | .6  | 6.9  | 1.2 | 9.4  | 72.8 | 100 |
| 1930-39 | 7.8  | 1.6 | 2.7 | .9  | 7.5  | 1.6 | 11.4 | 66.5 | 100 |
| 1940-49 | 9.0  | 1.7 | 3.5 | .5  | 11.0 | 1.5 | 6.6  | 66.2 | 100 |
| 1950-55 | 10.5 | 1.4 | 4.8 | .2  | 14.6 | 2.1 | 4.6  | 61.8 | 100 |

## SHEEP

|         |     |     |     |     |      |     |     |      |     |
|---------|-----|-----|-----|-----|------|-----|-----|------|-----|
| 1909-19 | 1.9 | 2.2 | 0.9 | --- | 8.2  | 0.3 | 3.5 | 83.0 | 100 |
| 1920-29 | 1.4 | 3.0 | 1.1 | --- | 9.8  | .8  | 2.8 | 81.1 | 100 |
| 1930-39 | 2.8 | 1.7 | 1.3 | --- | 9.0  | 1.0 | 3.4 | 80.8 | 100 |
| 1940-49 | 3.5 | 1.2 | 1.4 | --- | 11.5 | .9  | 2.4 | 79.1 | 100 |
| 1950-55 | 3.9 | 1.5 | 1.9 | --- | 12.1 | .9  | 2.2 | 77.5 | 100 |

## HORSES AND MULES

|         |      |      |     |     |      |     |      |      |     |
|---------|------|------|-----|-----|------|-----|------|------|-----|
| 1909-19 | 28.2 | 10.7 | 1.9 | --- | 19.2 | --- | 12.4 | 27.6 | 100 |
| 1920-29 | 26.8 | 12.0 | 1.6 | --- | 22.3 | --- | 10.9 | 26.4 | 100 |
| 1930-39 | 24.4 | 9.4  | .4  | --- | 23.0 | --- | 11.8 | 31.0 | 100 |
| 1940-49 | 19.0 | 9.8  | .7  | --- | 24.1 | --- | 9.1  | 37.3 | 100 |
| 1950-55 | 16.3 | 8.1  | 1.5 | --- | 18.6 | --- | 14.2 | 41.3 | 100 |

## HOGS

|         |      |      |      |     |     |     |     |     |     |
|---------|------|------|------|-----|-----|-----|-----|-----|-----|
| 1909-19 | 71.1 | 9.6  | 10.3 | 5.6 | --- | --- | --- | 3.4 | 100 |
| 1920-29 | 71.1 | 11.8 | 7.6  | 5.8 | --- | --- | --- | 3.7 | 100 |
| 1930-39 | 67.8 | 14.0 | 6.8  | 7.5 | --- | --- | --- | 3.9 | 100 |
| 1940-49 | 62.6 | 18.2 | 10.1 | 4.2 | --- | --- | --- | 4.9 | 100 |
| 1950-55 | 63.5 | 16.0 | 12.7 | 3.1 | --- | --- | --- | 4.7 | 100 |

## POULTRY

|         |      |      |      |     |     |     |     |     |     |
|---------|------|------|------|-----|-----|-----|-----|-----|-----|
| 1909-19 | 51.4 | 22.3 | 13.2 | 4.5 | --- | --- | --- | 8.6 | 100 |
| 1920-29 | 50.2 | 22.8 | 16.3 | 3.5 | --- | --- | --- | 7.2 | 100 |
| 1930-39 | 42.5 | 29.1 | 20.3 | 3.6 | --- | --- | --- | 4.5 | 100 |
| 1940-49 | 40.8 | 30.0 | 24.4 | 1.8 | --- | --- | --- | 3.0 | 100 |
| 1950-55 | 39.6 | 27.2 | 30.5 | .5  | --- | --- | --- | 2.2 | 100 |

Corn stover (shock corn with the ears removed) is probably the most important dry forage other than hay (table 2). There are no official estimates as to how much is produced or fed, but it is of less importance now than it was in the early part of this century when silage was less common.

It is probable that 30 million tons or more were fed annually in that era. Corn stover may be used as a considerable part of the roughage ration for stock cattle, wintering horses, and in limited amounts, for dairy cows or fattening cattle. Sorghum fodder and stover take the place of corn fodder and stover in parts of the Great Plains States and the States adjoining, particularly in Kansas, Oklahoma, and Texas. From 4 to 8 million tons have been produced in recent years. Straw from the small grains is a source of considerable feed (36), especially in times of shortages. Straw can be used in the North to carry cattle or idle horses through the winter. Many livestock in the Great Plains have been pulled through a hard winter with feed from a strawpile. Of all the straws, oat straw makes the best feed. Less straw is harvested now that most grain is harvested with combines. Cottonseed hulls have about the same feed value as oat straw and in the South they are fed to cattle. Recently, corncobs have been found to have considerable value in a ration for fattening cattle.

### Pasture and Grazing

Roughage that livestock gather themselves, whether from grass pastures, rangeland, hay meadows, stubblefields, or cornstalks, comes under the heading of pasture and grazing. The importance of this source of feed is often overlooked (22). For the country as a whole, it probably furnishes more than a third of all feed nutrients consumed by all livestock (fig. 1, table 3). The grazing season lasts from about

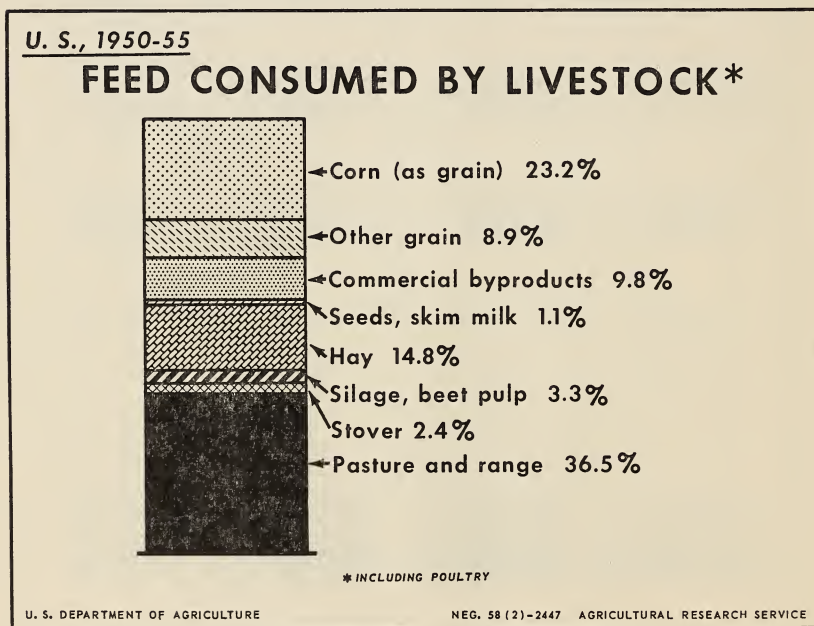


FIGURE 1.



150 days in most of the Northern States to the entire year in parts of the South and Southwest. Condition of pastures varies from time to time during the grazing season and from year to year, depending largely on the rainfall (fig. 2). In the North, the pasture season usually opens around May 1. In May and June, the bluegrass is lush. In July and August, it dries up, but recovers in late September. Usually in May and June, there is more feed from the grass than the livestock can use, but in the late summer there is too little. In spring when the grass is actively growing, the protein content is high, but later in the summer when growth slows down, it is lower.

It is difficult to measure the feed nutrients that an animal gets from a day or a season of grazing. A cow that produces a large quantity of milk probably gets more feed per day from grazing on good pasture than does a low-producing cow or a beef cow of the same weight. The little evidence available suggests that the feed nutrients a fairly good cow gets in a day from fairly good pasture would average the equivalent of about 15 pounds of corn, or 25 pounds of alfalfa hay. High-producing cows on excellent pasture probably exceed this figure by 40 percent or more, but in an average day of pasture for the season, the average milk cow in the United States probably gets the equivalent of only 10 pounds of corn.

Feed from good pasture is usually much cheaper per unit than are harvested feeds, even though the latter yield more per acre. When animals are pastured, savings in labor, seed, and machinery more than offset the difference in yield between pasture and harvested fields. In 1950, the yield of average cropland pasture in several Corn Belt States was estimated at around 1,300 feed units, or 23 bushels of corn (22, table 32). Methods of improving pastures include: (1) Cultivation and reseeding with mixtures of grasses and legumes that give a

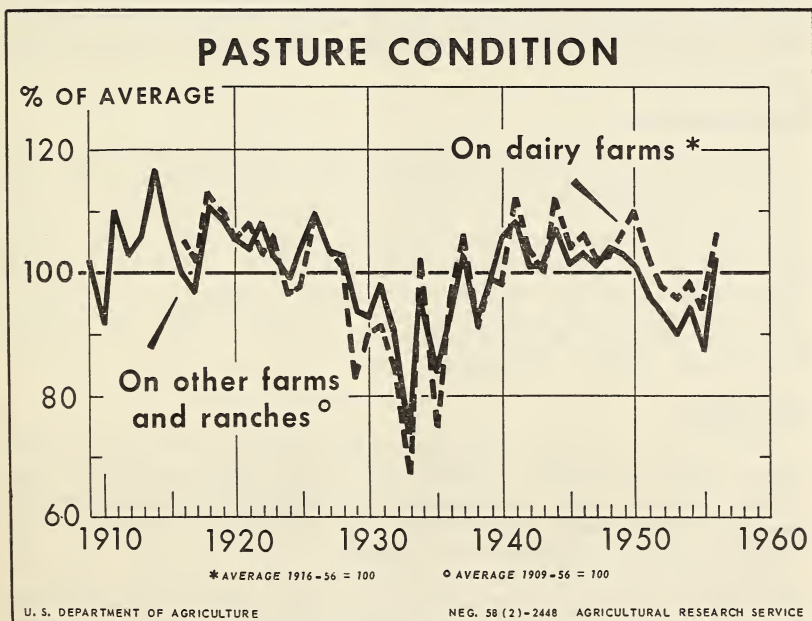


FIGURE 2.

more uniform and continuous growth throughout the season; (2) control of the number of livestock grazed to avoid either undergrazing or overgrazing on any part of the pasture; (3) proper fertilization that will encourage the desired mixture of grasses and legumes and tend to correct deficiencies in soil fertility; and, in addition, proper grazing in the range country includes (4) attention to distribution of water and of salt and the holding and spreading of rainfall by terraces (54, 1948).

The chief measure of improvement is control of the number of livestock that are permitted to graze at a particular time. Feeds obtained from an acre of pasture vary widely. In some parts of the West, as much as 40 to 50 acres of land are used to support 1 cow for the grazing season. In most of the West, it takes 10 to 20 acres of nonirrigated pastureland to support 1 cow. In some of the better pasture areas of the East, such as southwestern Virginia, it takes about 3 acres of permanent pasture per head. On an average, 1 to 2 acres per head for the season are needed for cows on improved permanent and rotation pastures. On the best pastures, less than an acre per head is needed.

Bluegrass, redtop, and white and alsike clover are the principal forage plants on permanent pasture in the North and East. Ladino clover has come into importance in recent years. In the South, Bermuda grass, Dallis and carpet grass, and Johnson grass are the principal grasses. Red clover, sweet clover, alfalfa, and timothy are used for rotation pastures in the North. In the South, small grains furnish much grazing in winter. Winter wheat is grazed by cattle and sheep for several months in winter in western Kansas and adjacent areas. Lespedeza is an important hay, pasture, and soil-improvement plant in a large area that extends from Missouri and Arkansas eastward. In the Northern Plains, crested wheatgrass has been much used to regrass lands previously in cultivation. Many different mature grasses and shrubs make up the permanent vegetation of the western ranges (54, 1948).

### Miscellaneous Feeds

In addition to the feeds described, other feeds of some importance should be mentioned, even though figures on consumption of these feeds are not included in this report. Considerable buckwheat is fed to poultry and livestock in New York and some other Northern States. Cull beans and potatoes often are fed to livestock. Garbage is of considerable importance around cities as a feed for hogs. Such byproduct feeds as distillery slop, citrus byproducts, pea-cannery byproducts, and root crops are of local importance, but they also are omitted from consideration in this report.

### Feed Additives

Many substances have been added to formula feeds in the last 20 years. Collectively, these substances, which include antibiotics, hormones, minerals, urea, vitamins, and other growth factors or medications, are called feed additives (29). Quantitative estimates of these materials are not included in this report.

*Minerals* like calcium and phosphorus salt have been added to feeds for a long time. Traces of other minerals are added for livestock in areas that are deficient in these minerals.

*Urea* is a nitrogen compound that can be used to supply indirectly part of the protein needs of cattle, sheep, or goats when price relationships make it profitable to do so (19).

*Vitamins* were added to prepared feeds as their role in making the animal stronger and more productive became known.

*Antibiotics* are added to specific feeds largely to reduce or prevent disease in young animals and poultry. They are a comparatively recent development.

*Stilbestrol*, also a recent arrival, is a hormone that has been used widely in fattening beef cattle. In experiments, it has permitted substantial increases in daily gains and a saving of 10 to 15 percent in feed.

### Feed Unit as a Measure of Nutritive Value

Feeds may be substituted for one another when they are similar, and some substitution is possible even when the composition differs widely. Hay may be substituted for grain in the dairy ration. As all feeds do not have the same nutritive value per pound, some common denominator is useful so that the approximate total feed nutrients of several kinds of feed combined can be calculated. The total digestible nutrients in a feed are the common denominator usually used by animal husbandmen when it is necessary to add together feeds that differ as widely as do grain, hay, corn stover, and tankage. The basis of total digestible nutrients tends to put too high a value on hay and other roughage and too low a value on such protein feeds as tankage and cottonseed meal when fed as supplements to grain (22, table 37).

As used in this report, the "feed unit" is the substitution value of feeds for corn, as shown by feeding trials. A pound of corn is taken as the standard. The feed unit value of any other feed is the amount of the feed that is estimated to have the same feeding value as 1 pound of corn. The value varies with the kind of livestock and the extent of substitution.

The feed unit that has been used to a limited extent for many years is a device to convert all kinds of feed to the equivalent of pounds of corn. Although it is more or less arbitrary, it gives a fairly satisfactory basis for combining feeds that differ widely in nutritive value. It gives the protein content of the feed a greater weight than use of either total digestible nutrients or net energy in feeds as a basis for comparison. The total digestible nutrients represent the energy value of feed available for digestion, maintenance, and production of milk or eggs, gain in weight, or work. Net energy values are designed to measure the relative values of feeds for maintenance and productive purposes. They have been determined for a few feeds by experiments with animals and estimated for other feeds by the content of digestible nutrients or chemical composition. Total digestible nutrients and net energy values of the principal feeds as reported by Morrison (31), and as given for poultry in the United States Department of Agriculture Yearbook 1939 (54) and in Texas Agricultural Experiment Station Bulletin 571 (7), are shown in table 25.

The author's calculations of the values of different feeds compared with corn, based on feeding experiments with different kinds of livestock as reported in the sources mentioned elsewhere, are given in tables 4 to 7 and 26. These comparisons apply when fairly well-balanced rations are fed. The value of most feeds, especially the high-

protein feeds, is not constant in relation to corn. Each feed is usually worth more when it makes up a small rather than a large part of the ration. A pound of soybean meal, for instance, may replace 5 or 6 pounds of corn for hogs or turkeys when the feed contains only a small proportion of soybean meal, but a pound of soybean meal may replace less than a pound of corn if it makes up a considerable part of the ration. This is another application of the law of diminishing returns (12, 13). In the final column of table 26 are given estimates of the average feed-unit values of different feeds for the United States as a whole. The feed-unit values represent average relationships; they would not fit all situations. In parts of the South where cottonseed meal often is fed in greater abundance than is necessary to balance the protein in the ration, it would have a value no greater than its content of total digestible nutrients. This would apply also in parts of the West where alfalfa hay is fed in abundance to some classes of livestock.



TABLE 4.—*Relative value of feeds for dairy cows with various prices of corn*<sup>1</sup>

| Feed                       | Relative feeding value per pound compared with corn <sup>2</sup> | Unit          | Equivalent prices of other feeds when price per bushel of corn is— |                |                |                |                |                |                |                |                |
|----------------------------|--|---------------|--|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
|                            |  |               | \$0.90   | \$1.00         | \$1.10         | \$1.20         | \$1.30         | \$1.40         | \$1.50         | \$1.60         |                |
| <b>Grains:</b>             | <b>Percent</b>   | <b>Bushel</b> | <b>Dollars</b>   | <b>Dollars</b> | <b>Dollars</b> | <b>Dollars</b> | <b>Dollars</b> | <b>Dollars</b> | <b>Dollars</b> | <b>Dollars</b> | <b>Dollars</b> |
| Oats                       | 90   | do            | 0.46   | 0.51           | 0.56           | 0.62           | 0.67           | 0.72           | 0.77           | 0.82           | 0.87           |
| Barley                     | 100  | do            | .77  | .86            | .95            | 1.03           | 1.12           | 1.20           | 1.29           | 1.38           | 1.47           |
| Wheat                      | 105  | do            | 1.01   | 1.12           | 1.23           | 1.34           | 1.46           | 1.57           | 1.68           | 1.79           | 1.89           |
| Rye                        | 90   | do            | .81  | .90            | .99            | 1.08           | 1.17           | 1.26           | 1.35           | 1.44           | 1.53           |
| Sorghum                    | 100  | Cwt           | 1.61   | 1.79           | 1.97           | 2.15           | 2.33           | 2.51           | 2.68           | 2.86           | 3.04           |
| <b>Oilseed meals:</b>      |  |               |  |                |                |                |                |                |                |                |                |
| Cottonseed meal            | 160  | do            | 2.58   | 2.86           | 3.15           | 3.44           | 3.72           | 4.01           | 4.30           | 4.58           | 4.87           |
| Linseed meal               | 160  | do            | 2.58   | 2.86           | 3.15           | 3.44           | 3.72           | 4.01           | 4.30           | 4.58           | 4.87           |
| Soybean meal               | 170  | do            | 2.74   | 3.04           | 3.35           | 3.65           | 3.96           | 4.26           | 4.56           | 4.87           | 5.17           |
| Peanut meal                | 160  | do            | 2.58   | 2.86           | 3.15           | 3.44           | 3.72           | 4.01           | 4.30           | 4.58           | 4.87           |
| <b>Other concentrates:</b> |  |               |  |                |                |                |                |                |                |                |                |
| Gluten meal                | 165  | do            | 2.66   | 2.95           | 3.25           | 3.54           | 3.84           | 4.13           | 4.43           | 4.72           | 5.02           |
| Gluten feed                | 115  | do            | 1.85   | 2.06           | 2.26           | 2.47           | 2.67           | 2.88           | 3.09           | 3.29           | 3.50           |
| Brewers' dried grains      | 110  | do            | 1.76   | 1.96           | 2.16           | 2.35           | 2.55           | 2.74           | 2.94           | 3.14           | 3.34           |
| Distillers' dried grains   | 130  | do            | 2.09   | 2.33           | 2.56           | 2.79           | 3.03           | 3.26           | 3.49           | 3.72           | 3.95           |
| Wheat bran                 | 95   | do            | 1.53   | 1.70           | 1.87           | 2.04           | 2.21           | 2.38           | 2.55           | 2.72           | 2.89           |
| Wheat middlings            | 100  | do            | 1.61   | 1.79           | 1.97           | 2.15           | 2.33           | 2.51           | 2.68           | 2.86           | 3.04           |
| Hominy feed                | 100  | do            | 1.61   | 1.79           | 1.97           | 2.15           | 2.33           | 2.51           | 2.68           | 2.86           | 3.04           |
| Molasses (cane)            | 90   | do            | 1.45   | 1.61           | 1.77           | 1.93           | 2.09           | 2.25           | 2.42           | 2.58           | 2.74           |
| Dried beet pulp            | 90   | do            | 1.45   | 1.61           | 1.77           | 1.93           | 2.09           | 2.25           | 2.42           | 2.58           | 2.74           |
| Wet beet pulp              | 10   | do            | .16  | .18            | .20            | .22            | .23            | .25            | .27            | .29            | .31            |
| Alfalfa meal               | 65   | do            | 1.05   | 1.16           | 1.28           | 1.40           | 1.51           | 1.63           | 1.74           | 1.86           | 1.97           |
| Soybeans                   | 170  | do            | 2.74   | 3.04           | 3.35           | 3.65           | 3.96           | 4.26           | 4.56           | 4.87           | 5.17           |
| Cottonseed                 | 80   | do            | 1.29   | 1.43           | 1.58           | 1.72           | 1.86           | 2.00           | 2.15           | 2.29           | 2.44           |

<sup>1</sup> Prices per unit have been adjusted for weight and feeding value.

<sup>2</sup> When fed in fairly well-balanced rations.

TABLE 5.—Relative value of feeds for fattening beef cattle with various prices of corn <sup>1</sup>

| Feed                    | Relative feeding value per pound compared with corn <sup>2</sup> | Unit   | Equivalent prices of other feeds when price per bushel of corn is— |         |         |         |         |         |         |         |
|-------------------------|--|--------|--|---------|---------|---------|---------|---------|---------|---------|
|                         |  |        | \$0.90   | \$1.00  | \$1.10  | \$1.20  | \$1.30  | \$1.40  | \$1.50  | \$1.60  |
| Grains:                 | Percent  | Bushel | Dollars  | Dollars | Dollars | Dollars | Dollars | Dollars | Dollars | Dollars |
| Oats                    | 85   | -----  | 0.44   | 0.48    | 0.53    | 0.58    | 0.63    | 0.68    | 0.73    | 0.78    |
| Barley                  | 88   | do     | .68  | .76     | .83     | .91     | .98     | 1.06    | 1.14    | 1.21    |
| Wheat                   | 105  | do     | 1.00   | 1.11    | 1.22    | 1.33    | 1.44    | 1.55    | 1.66    | 1.78    |
| Rye                     | 95   | do     | .86  | .95     | 1.04    | 1.14    | 1.24    | 1.33    | 1.42    | 1.52    |
| Sorghum                 | 92   | Cwt    | 1.48   | 1.65    | 1.81    | 1.98    | 2.14    | 2.31    | 2.47    | 2.64    |
| Oilseed meals:          |  |        |  |         |         |         |         |         |         |         |
| Cottonseed meal         | 190  | do     | 3.05   | 3.39    | 3.73    | 4.07    | 4.41    | 4.75    | 5.09    | 5.43    |
| Linseed meal            | 300  | do     | 4.83   | 5.37    | 5.91    | 6.44    | 6.98    | 7.52    | 8.06    | 8.59    |
| Soybean meal            | 200  | do     | 3.22   | 3.58    | 3.94    | 4.30    | 4.65    | 5.01    | 5.37    | 5.73    |
| Peanut meal             | 200  | do     | 3.22   | 3.58    | 3.94    | 4.30    | 4.65    | 5.01    | 5.37    | 5.73    |
| Other concentrates:     |  |        |  |         |         |         |         |         |         |         |
| Gluten meal             | 225  | do     | 3.62   | 4.03    | 4.43    | 4.83    | 5.24    | 5.64    | 6.04    | 6.44    |
| Distillers' dried grain | 135  | do     | 2.17   | 2.42    | 2.66    | 2.90    | 3.14    | 3.38    | 3.62    | 3.87    |
| Hominy feed             | 100  | do     | 1.61   | 1.79    | 1.97    | 2.15    | 2.33    | 2.51    | 2.68    | 2.86    |
| Molasses (cane)         | 85   | do     | 1.37   | 1.52    | 1.67    | 1.82    | 1.98    | 2.13    | 2.28    | 2.43    |
| Dried beet pulp         | 90   | do     | 1.45   | 1.61    | 1.77    | 1.93    | 2.09    | 2.25    | 2.42    | 2.58    |
| Wet beet pulp           | 15   | do     | .24  | .27     | .30     | .32     | .35     | .38     | .40     | .43     |
| Soybeans                | 200  | do     | 3.22   | 3.58    | 3.94    | 4.30    | 4.65    | 5.01    | 5.37    | 5.73    |
| Cottonseed              | 140  | do     | 2.26   | 2.51    | 2.76    | 3.01    | 3.26    | 3.51    | 3.76    | 4.01    |

<sup>1</sup> Prices per unit have been adjusted for weight and feeding value.<sup>2</sup> When fed on fairly well-balanced rations.

TABLE 6.—Relative value of feeds for hogs with various prices of corn <sup>1</sup>

| Feed                  | Relative feeding value per pound compared with corn <sup>2</sup> | Unit          | Equivalent prices of other feeds when price per bushel of corn is— |         |         |         |         |         |         |         |
|-----------------------|--|---------------|--|---------|---------|---------|---------|---------|---------|---------|
|                       |  |               | \$0.90   | \$1.00  | \$1.10  | \$1.20  | \$1.30  | \$1.40  | \$1.50  | \$1.60  |
| Grains:               | Percent  | Bushel        | Dollars  | Dollars | Dollars | Dollars | Dollars | Dollars | Dollars | Dollars |
| Oats.....             | 90   | -----         | 0.43   | 0.51    | 0.56    | 0.61    | 0.69    | 0.72    | 0.77    | 0.83    |
| Barley.....           | 90   | -----do-----  | .69  | .77     | .85     | .93     | 1.01    | 1.08    | 1.16    | 1.24    |
| Wheat.....            | 103  | -----do-----  | .99  | 1.10    | 1.21    | 1.32    | 1.43    | 1.54    | 1.66    | 1.76    |
| Rye.....              | 80   | -----do-----  | .72  | .80     | .88     | .96     | 1.04    | 1.12    | 1.20    | 1.28    |
| Sorghum.....          | 90   | -----Cwt----- | 1.45   | 1.61    | 1.77    | 1.93    | 2.09    | 2.25    | 2.42    | 2.58    |
| Oilseed meals:        |  |               |  |         |         |         |         |         |         |         |
| Cottonseed meal.....  | 150  | -----do-----  | 2.42   | 2.69    | 2.95    | 3.22    | 3.49    | 3.76    | 4.03    | 4.30    |
| Linseed meal.....     | 200  | -----do-----  | 3.22   | 3.58    | 3.94    | 4.30    | 4.65    | 5.01    | 5.37    | 5.73    |
| Soybean meal.....     | 200  | -----do-----  | 3.22   | 3.58    | 3.94    | 4.30    | 4.65    | 5.01    | 5.37    | 5.73    |
| Peanut meal.....      | 200  | -----do-----  | 3.21   | 3.57    | 3.93    | 4.29    | 4.64    | 5.00    | 5.36    | 5.71    |
| Animal-protein feeds: |  |               |  |         |         |         |         |         |         |         |
| Tankage.....          | 250  | -----do-----  | 4.02   | 4.48    | 4.92    | 5.37    | 5.82    | 6.26    | 6.71    | 7.16    |
| Meat scraps.....      | 250  | -----do-----  | 4.02   | 4.48    | 4.92    | 5.37    | 5.82    | 6.26    | 6.71    | 7.16    |
| Fishmeal.....         | 300  | -----do-----  | 4.83   | 5.37    | 5.91    | 6.44    | 6.98    | 7.52    | 8.06    | 8.59    |
| Skim milk.....        | 30   | -----do-----  | .48  | .54     | .59     | .64     | .70     | .75     | .81     | .86     |
| Other concentrates:   |  |               |  |         |         |         |         |         |         |         |
| Gluten meal.....      | 175  | -----do-----  | 2.81   | 3.13    | 3.45    | 3.76    | 4.07    | 4.38    | 4.70    | 5.01    |
| Wheat middlings.....  | 105  | -----do-----  | 1.69   | 1.88    | 2.07    | 2.26    | 2.44    | 2.63    | 2.82    | 3.01    |
| Hominy feed.....      | 95   | -----do-----  | 1.53   | 1.70    | 1.87    | 2.04    | 2.21    | 2.38    | 2.55    | 2.72    |
| Molasses.....         | 70   | -----do-----  | 1.13   | 1.25    | 1.38    | 1.50    | 1.63    | 1.75    | 1.88    | 2.00    |
| Alfalfa meal.....     | 70   | -----do-----  | 1.13   | 1.25    | 1.38    | 1.50    | 1.63    | 1.75    | 1.88    | 2.00    |
| Soybeans.....         | 150  | -----do-----  | 2.42   | 2.69    | 2.95    | 3.22    | 3.49    | 3.76    | 4.03    | 4.30    |

<sup>1</sup> Prices per unit have been adjusted for weight and feeding value.

<sup>2</sup> When fed on fairly well-balanced rations.

TABLE 7.—*Relative value of feeds for poultry with various prices of corn*<sup>1</sup>

| Feed                        | Relative feeding value per pound compared with corn <sup>2</sup> | Unit        | Equivalent prices of other feeds when price per bushel of corn is— |                 |                 |                 |                 |                 |                 |                 |  |  |
|-----------------------------|--|-------------|--|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|--|--|
|                             |  |             | \$0.90   | \$1.00          | \$1.10          | \$1.20          | \$1.30          | \$1.40          | \$1.50          | \$1.60          |  |  |
| <b>Grains:</b>              |  |             |  |                 |                 |                 |                 |                 |                 |                 |  |  |
| Oats.....                   | 90   | Bushel..... | Dollars<br>0.46  | Dollars<br>0.51 | Dollars<br>0.56 | Dollars<br>0.62 | Dollars<br>0.67 | Dollars<br>0.72 | Dollars<br>0.77 | Dollars<br>0.82 |  |  |
| Barley.....                 | 80   | do.....     | .62  | .69             | .76             | .83             | .89             | .96             | 1.03            | 1.10            |  |  |
| Wheat.....                  | 105  | do.....     | 1.00   | 1.11            | 1.22            | 1.33            | 1.44            | 1.55            | 1.66            | 1.78            |  |  |
| Sorghum.....                | 95   | Cwt.....    | 1.53   | 1.70            | 1.87            | 2.04            | 2.21            | 2.38            | 2.55            | 2.72            |  |  |
| <b>Oilseed meals:</b>       |  |             |  |                 |                 |                 |                 |                 |                 |                 |  |  |
| Soybean meal.....           | 150  | do.....     | 2.42   | 2.68            | 2.95            | 3.22            | 3.49            | 3.76            | 4.03            | 4.30            |  |  |
| Peanut meal.....            | 140  | do.....     | 2.26   | 2.50            | 2.76            | 3.01            | 3.26            | 3.51            | 3.76            | 4.01            |  |  |
| <b>Animal-protein feed:</b> |  |             |  |                 |                 |                 |                 |                 |                 |                 |  |  |
| Tankage.....                | 170  | do.....     | 2.74   | 3.04            | 3.35            | 3.65            | 3.96            | 4.26            | 4.56            | 4.87            |  |  |
| Meat scraps.....            | 165  | do.....     | 2.66   | 2.95            | 3.25            | 3.54            | 3.84            | 4.13            | 4.43            | 4.72            |  |  |
| Fishmeal.....               | 250  | do.....     | 4.02   | 4.48            | 4.92            | 5.37            | 5.82            | 6.26            | 6.71            | 7.16            |  |  |
| Skim milk, dried.....       | 200  | do.....     | 3.22   | 3.58            | 3.94            | 4.30            | 4.65            | 5.01            | 5.37            | 5.73            |  |  |
| <b>Other concentrates:</b>  |  |             |  |                 |                 |                 |                 |                 |                 |                 |  |  |
| Wheat bran.....             | 70   | do.....     | 1.13   | 1.25            | 1.38            | 1.50            | 1.63            | 1.75            | 1.88            | 2.00            |  |  |
| Wheat middlings.....        | 90   | do.....     | 1.45   | 1.61            | 1.77            | 1.93            | 2.09            | 2.25            | 2.42            | 2.58            |  |  |
| Alfalfa meal.....           | 70   | do.....     | 1.13   | 1.25            | 1.38            | 1.50            | 1.63            | 1.75            | 1.88            | 2.00            |  |  |
| Soybeans.....               | 100  | do.....     | 1.61   | 1.79            | 1.97            | 2.15            | 2.33            | 2.51            | 2.68            | 2.86            |  |  |

<sup>1</sup> Prices per unit have been adjusted for weight and feeding value.<sup>2</sup> When fed in fairly well-balanced rations.



Total feed units in the United States from the principal kinds of feeds are given in table 64 and figure 3. In 1956, feed units from grain, excluding silage, amounted to 98 million tons; from commercial byproducts, 32 million tons; from hay, 44 million tons; and from pasture, 120 million tons, of a total of 315 million tons. Estimated feed units from pasture were obtained by multiplying the number of each kind of livestock by a factor that represents the feed each animal gets from pasture in an average year. These factors were calculated by estimating the total digestible nutrients required for a year for each kind and class of livestock; deducting the digestible nutrients fed as concentrates, hay, and other harvested forage. The rest was assumed to be the feed coming from pasture. This was done by States for 1949-50 and is reported in Statistical Bulletin 153 (22) issued by the Department. The same rates per head were used each year, except that they were increased when the condition of pastures and ranges as reported by the Agricultural Marketing Service was above average and decreased when the condition for the pasture season was below average. The increase or decrease was in the proportion that the condition varied from average. It was assumed that when the condition figure was low, livestock got less feed per head from pasture than in an average year, and when it was high they got more than average. No attempt was made to relate it to acreage of pasture available in the different years. This relationship between acres and pasture for 1949-50 is also given in Statistical Bulletin 153 (22).

### Longtime Changes in Feed Consumed

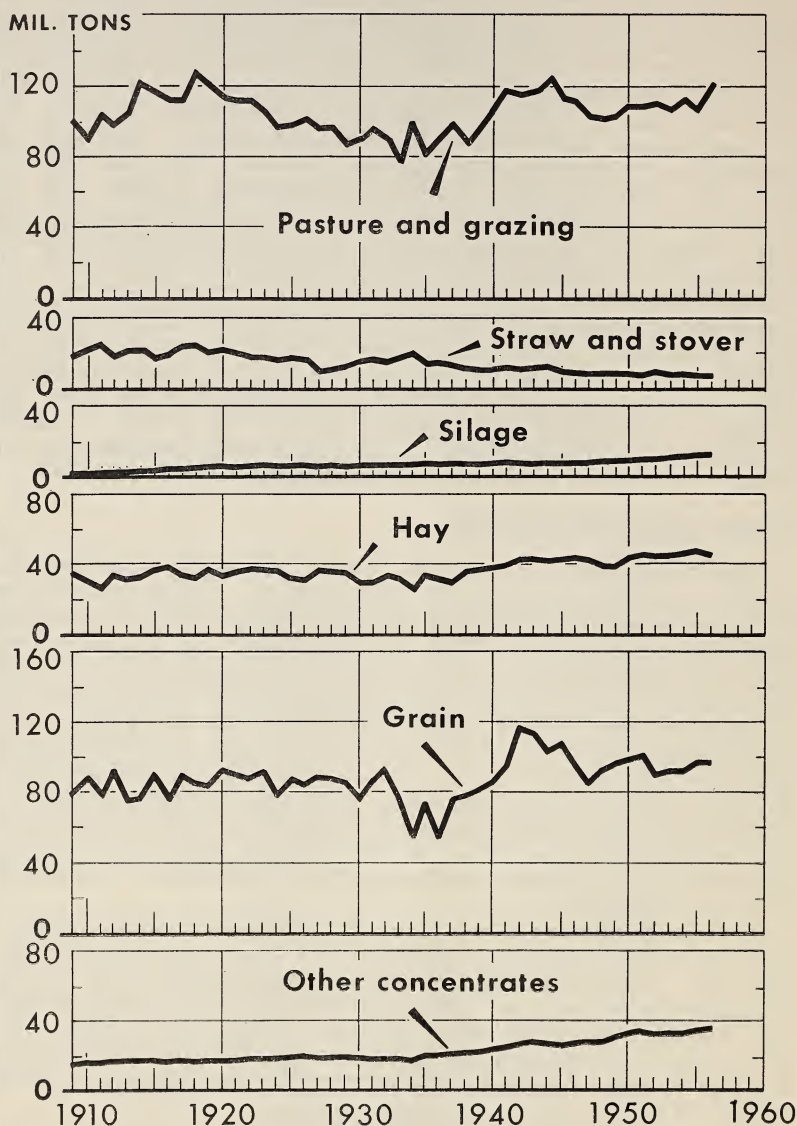
Hay and pasture accounted for about half of the total feed consumed by all livestock in recent years (table 3). In the last 40 years, the percentage coming from pasture has decreased and the percentage from hay has increased. Corn, excluding silage, has accounted for a little less than a fourth of the total feed consumed for four decades. Other grains (oats, barley, sorghum grains, and wheat feed) have maintained about the same position throughout the years. Commercial byproducts occupy a more important place in our feed supply than they did 40 years ago. This is especially true of the oilseed meals and other high-protein feeds. The protein content of all concentrates fed has probably been a little higher in recent years than it was between 1910 and 1920. It has averaged about 10 percent for all concentrates (including seeds and the dry equivalent of skim milk as concentrates) (16).

In 1956, Morrison (31) reported the digestible protein content of No. 3 corn at 6.5 percent compared with 7 percent reported before 1940 (30). This reflects the lower protein content of hybrid varieties. It means that the average corn crop contains 350,000 tons less digestible protein than it did before the war. Some of the other grains have a higher protein content, but more than 900,000 additional tons of soybean meal must be fed to make up for the decrease in protein content of corn.

The protein content of hay has increased (26). Livestock as a whole probably have more protein in their rations than they had 30 or 40 years ago, even after taking into consideration that horses and mules got a higher percentage of the concentrates and hay than they do now and that they require less protein than other classes of livestock.

# ALL FEED

Feed Units Consumed by Livestock



U. S. DEPARTMENT OF AGRICULTURE

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FIGURE 3.

About 25 to 30 percent more hay has been fed in the United States in recent years than was fed from 1909 to 1915, and a much larger percentage of the total is made up of legumes. The tonnages of corn silage and sorghum silage have increased also. No official figures are available as to acreage or tonnage of silage harvested before 1919, but it is thought that in 1910 the tonnage was comparatively small. There are no accurate reports of corn stover fed, but it is still an important source of feed when other feeds are in short supply. Before 1920, straw and stover probably were more than half as important as hay in the feed supply of the country.

The formula-feed industry was comparatively small until World War II, when it expanded quickly. Since the war the industry has probably mixed about a fourth of all concentrates fed to all livestock, not including feed that is custom mixed. It produces most of the feed for broilers, more than half the feed for all poultry, and about a fourth of the concentrates fed to dairy cattle.

In the last 10 to 15 years, as previously discussed, a number of substances known as feed additives have been added to formula feeds. They are an addition to the nutrients and substances carried naturally by the major feed ingredients in the mixture. These additives were discovered and developed by research workers in nutrition, and the feed industry was quick to include them in formula feeds. Results in terms of more product per pound of feed have been especially noticeable in broiler production and more recently in the fattening of beef cattle.

## LIVESTOCK NUMBERS AND PRODUCTION

Annual estimates of numbers of livestock on farms in the United States on January 1 each year are made by the Agricultural Marketing Service (tables 8 and 9) (45). These are the livestock to which most of the feed discussed previously was fed. Annual production of livestock and livestock products (tables 27 to 29) is the product produced from the feed fed. In 1957, there were in this country about 95 million cattle, of which about 35 million were dairy cattle and 60 million were beef cattle. There were also about 31 million sheep, 52 million hogs, and 393 million chickens on farms January 1. A major change in numbers of livestock over the years has been the steady reduction in numbers of horses and mules since the high point in 1918, when 26.7 million head were on farms. In 1957, there were about 3½ million head, or only 13 percent of the number in 1918.



TABLE 8.—Number of cattle and sheep on farms January 1, 1910-57

| Year | Cattle                         |                                 |                             |                                |                                |                              | Sheep and lambs |                         |                       |                     |
|------|--------------------------------|---------------------------------|-----------------------------|--------------------------------|--------------------------------|------------------------------|-----------------|-------------------------|-----------------------|---------------------|
|      | Dairy                          |                                 | Beef                        |                                |                                |                              | All cattle      | Sheep and lambs on feed | Stock sheep and lambs | All sheep and lambs |
|      | Milk cows 2 years old and over | Other dairy cattle <sup>1</sup> | Cattle on feed <sup>2</sup> | Beef cows 2 years old and over | Other beef cattle <sup>3</sup> | All beef cattle <sup>4</sup> |                 |                         |                       |                     |
|      | 1,000 head                     | 1,000 head                      | 1,000 head                  | 1,000 head                     | 1,000 head                     | 1,000 head                   | 1,000 head      | 1,000 head              | 1,000 head            |                     |
| 1910 | 19,450                         | 8,400                           | ---                         | ---                            | ---                            | 31,143                       | 3,300           | 46,939                  | 50,239                |                     |
| 1911 | 19,422                         | 8,400                           | ---                         | ---                            | ---                            | 29,403                       | 4,500           | 46,055                  | 50,555                |                     |
| 1912 | 19,517                         | 8,500                           | ---                         | ---                            | ---                            | 27,748                       | 4,925           | 42,972                  | 47,897                |                     |
| 1913 | 19,580                         | 8,500                           | ---                         | ---                            | ---                            | 28,512                       | 4,108           | 40,544                  | 44,652                |                     |
| 1914 | 19,821                         | 8,600                           | ---                         | ---                            | ---                            | 31,040                       | 5,030           | 38,059                  | 43,089                |                     |
| 1915 | 20,270                         | 8,800                           | ---                         | ---                            | ---                            | 34,779                       | 4,250           | 36,263                  | 40,513                |                     |
| 1916 | 20,752                         | 9,000                           | ---                         | ---                            | ---                            | 37,686                       | 3,750           | 36,260                  | 40,010                |                     |
| 1917 | 21,212                         | 9,200                           | ---                         | ---                            | ---                            | 40,567                       | 3,640           | 35,246                  | 38,886                |                     |
| 1918 | 21,536                         | 9,400                           | ---                         | ---                            | ---                            | 42,104                       | 2,960           | 36,704                  | 39,664                |                     |
| 1919 | 21,545                         | 9,400                           | ---                         | ---                            | ---                            | 41,149                       | 3,515           | 38,360                  | 41,875                |                     |
| 1920 | 21,455                         | 9,796                           | ---                         | 12,525                         | ---                            | 39,149                       | 3,415           | 37,328                  | 40,743                |                     |
| 1921 | 21,456                         | 9,340                           | ---                         | 12,292                         | ---                            | 37,918                       | 4,053           | 35,426                  | 39,479                |                     |
| 1922 | 21,851                         | 9,340                           | ---                         | 12,182                         | ---                            | 37,604                       | 3,557           | 33,365                  | 36,922                |                     |
| 1923 | 22,188                         | 9,517                           | ---                         | 11,974                         | ---                            | 35,891                       | 4,206           | 32,597                  | 36,803                |                     |
| 1924 | 22,331                         | 9,541                           | ---                         | 11,926                         | ---                            | 34,124                       | 4,280           | 32,859                  | 37,139                |                     |
| 1925 | 22,576                         | 9,472                           | ---                         | 11,204                         | ---                            | 31,325                       | 4,074           | 34,469                  | 38,543                |                     |
| 1926 | 22,410                         | 9,419                           | ---                         | 10,294                         | ---                            | 28,747                       | 4,644           | 35,719                  | 40,363                |                     |
| 1927 | 22,251                         | 9,542                           | ---                         | 9,439                          | ---                            | 26,385                       | 4,348           | 38,067                  | 42,415                |                     |
| 1928 | 22,231                         | 9,844                           | ---                         | 8,926                          | ---                            | 25,247                       | 4,569           | 40,689                  | 45,258                |                     |
| 1929 | 22,440                         | 10,479                          | ---                         | 8,997                          | ---                            | 25,958                       | 4,900           | 43,481                  | 48,381                |                     |

|                   |         |         |        |         |         |         |         |        |         |         |
|-------------------|---------|---------|--------|---------|---------|---------|---------|--------|---------|---------|
| 1930              | 23, 032 | 11, 097 | 3, 113 | 9, 162  | 14, 599 | 26, 874 | 61, 003 | 5, 988 | 45, 577 | 51, 565 |
| 1931              | 23, 820 | 11, 228 | 3, 025 | 9, 809  | 15, 148 | 27, 982 | 63, 030 | 5, 513 | 47, 720 | 53, 233 |
| 1932              | 24, 896 | 11, 583 | 2, 878 | 10, 439 | 16, 005 | 29, 322 | 65, 801 | 6, 220 | 47, 682 | 53, 902 |
| 1933              | 25, 936 | 12, 074 | 3, 080 | 11, 346 | 17, 844 | 32, 270 | 70, 280 | 5, 751 | 47, 303 | 53, 054 |
| 1934              | 26, 931 | 12, 248 | 2, 890 | 12, 678 | 19, 622 | 35, 190 | 74, 369 | 5, 259 | 48, 244 | 53, 503 |
| 1935              | 26, 082 | 11, 446 | 2, 215 | 11, 151 | 17, 952 | 31, 318 | 68, 846 | 5, 669 | 46, 139 | 51, 808 |
| 1936              | 25, 196 | 11, 398 | 3, 202 | 11, 048 | 17, 003 | 31, 253 | 67, 847 | 5, 701 | 45, 435 | 51, 136 |
| 1937              | 24, 649 | 11, 330 | 2, 759 | 10, 682 | 16, 878 | 30, 119 | 66, 098 | 5, 597 | 45, 251 | 50, 848 |
| 1938              | 24, 466 | 11, 438 | 3, 336 | 10, 132 | 15, 877 | 29, 345 | 65, 249 | 6, 091 | 44, 972 | 51, 063 |
| 1939              | 24, 600 | 12, 159 | 3, 303 | 9, 987  | 15, 980 | 29, 270 | 66, 029 | 5, 885 | 45, 463 | 51, 348 |
| 1940              | 24, 940 | 12, 629 | 3, 633 | 10, 676 | 16, 431 | 30, 740 | 68, 309 | 5, 841 | 46, 266 | 52, 107 |
| 1941              | 25, 453 | 13, 102 | 4, 065 | 11, 366 | 17, 769 | 33, 200 | 71, 755 | 6, 479 | 47, 441 | 53, 920 |
| 1942              | 26, 313 | 13, 701 | 4, 185 | 12, 578 | 19, 248 | 36, 011 | 76, 025 | 6, 867 | 49, 346 | 56, 213 |
| 1943              | 27, 138 | 14, 314 | 4, 445 | 13, 980 | 21, 327 | 39, 752 | 81, 204 | 6, 954 | 48, 196 | 55, 150 |
| 1944              | 27, 704 | 14, 814 | 4, 015 | 15, 521 | 23, 280 | 42, 816 | 85, 334 | 6, 512 | 44, 270 | 50, 782 |
| 1945              | 27, 770 | 14, 364 | 4, 411 | 16, 456 | 22, 572 | 43, 439 | 85, 573 | 6, 911 | 39, 609 | 46, 520 |
| 1946              | 26, 521 | 13, 191 | 4, 211 | 16, 408 | 21, 904 | 42, 523 | 82, 235 | 6, 837 | 35, 525 | 42, 362 |
| 1947              | 25, 842 | 12, 961 | 4, 322 | 16, 488 | 20, 941 | 41, 751 | 80, 554 | 5, 693 | 31, 805 | 37, 498 |
| 1948              | 24, 615 | 12, 618 | 3, 821 | 16, 010 | 20, 107 | 39, 938 | 77, 171 | 4, 851 | 29, 486 | 34, 337 |
| 1949              | 23, 862 | 12, 416 | 4, 540 | 15, 521 | 20, 093 | 40, 552 | 76, 830 | 4, 003 | 26, 940 | 30, 943 |
| 1950              | 23, 853 | 12, 595 | 4, 390 | 16, 743 | 20, 382 | 41, 515 | 77, 963 | 3, 644 | 26, 182 | 29, 826 |
| 1951              | 23, 568 | 12, 776 | 4, 534 | 18, 526 | 22, 679 | 45, 739 | 82, 083 | 3, 382 | 27, 251 | 30, 633 |
| 1952              | 23, 060 | 13, 106 | 4, 961 | 20, 863 | 26, 082 | 51, 906 | 88, 072 | 4, 038 | 27, 944 | 31, 982 |
| 1953              | 23, 549 | 13, 331 | 5, 754 | 23, 291 | 28, 316 | 57, 361 | 94, 241 | 4, 307 | 27, 593 | 31, 900 |
| 1954              | 23, 896 | 13, 191 | 5, 364 | 25, 050 | 28, 178 | 58, 592 | 95, 679 | 4, 277 | 27, 079 | 31, 356 |
| 1955              | 23, 462 | 12, 773 | 5, 786 | 25, 659 | 28, 912 | 60, 357 | 96, 592 | 4, 445 | 27, 137 | 31, 582 |
| 1956              | 23, 213 | 12, 368 | 5, 880 | 25, 516 | 29, 827 | 61, 223 | 96, 804 | 4, 261 | 27, 012 | 31, 273 |
| 1957 <sup>5</sup> | 23, 028 | 12, 268 | 6, 099 | 24, 936 | 28, 835 | 59, 870 | 95, 166 | 4, 468 | 26, 370 | 30, 838 |

<sup>1</sup> Heifers and heifer calves kept for milk, plus the dairy bulls, "All" bulls were divided into dairy bulls and beef bulls by dividing them in the same proportion as milk cows 2 years old and over and beef cows 2 years old and over. Before 1920 "other dairy cattle" was estimated by taking 43.5 percent of the milk cows 2 years old and over and rounding to the nearest 100,000.

<sup>2</sup> Cattle on feed January 1 not reported before 1930.

<sup>3</sup> Other beef cattle computed by subtracting milk cows, other dairy cattle, cattle on feed and beef cows from all cattle on farms January 1. Not available before 1930.

<sup>4</sup> All beef cattle is the sum of cattle on feed plus beef cows and other beef cattle on farms January 1.

<sup>5</sup> Preliminary estimates.

TABLE 9.—Number of hogs, horses and mules, and poultry on farms, January 1, 1910-57

| Year | Hogs               |                       |            | Horses and mules     |                         |            | Hens and pullets | All chickens  | Turkeys <sup>1</sup> |
|------|--------------------|-----------------------|------------|----------------------|-------------------------|------------|------------------|---------------|----------------------|
|      | Under 6 months old | 6 months old and over |            | 2 years old and over | Colts under 2 years old | Total      |                  |               |                      |
|      |                    | Sows and gilts        | Other      |                      |                         |            |                  |               |                      |
| 1910 | 1,000 head         | 1,000 head            | 1,000 head | 1,000 head           | 1,000 head              | 1,000 head | 1,000 head       | Milition head | 1,000 head           |
| 1911 | ---                | ---                   | ---        | 48, 072              | 19, 877                 | 4, 334     | 24, 211          | 319           | 356                  |
| 1912 | ---                | ---                   | ---        | 55, 366              | 20, 301                 | 4, 546     | 24, 847          | 342           | 382                  |
| 1913 | ---                | ---                   | ---        | 55, 394              | 20, 569                 | 4, 708     | 25, 277          | 329           | 367                  |
| 1914 | ---                | ---                   | ---        | 53, 747              | 20, 846                 | 4, 845     | 25, 691          | 327           | 365                  |
| 1915 | ---                | ---                   | ---        | 52, 853              | 21, 247                 | 4, 931     | 26, 178          | 328           | 367                  |
| 1916 | ---                | ---                   | ---        | 56, 600              | 21, 562                 | 4, 931     | 26, 493          | 340           | 379                  |
| 1917 | ---                | ---                   | ---        | 60, 596              | 21, 694                 | 4, 840     | 26, 534          | 331           | 369                  |
| 1918 | ---                | ---                   | ---        | 57, 578              | 22, 003                 | 4, 656     | 26, 659          | 322           | 359                  |
| 1919 | ---                | ---                   | ---        | 62, 931              | 22, 370                 | 4, 353     | 26, 723          | 326           | 363                  |
| 1920 | ---                | ---                   | ---        | 64, 326              | 22, 576                 | 3, 914     | 26, 490          | 351           | 391                  |
| 1921 | 26, 525            | 11, 579               | 22, 055    | 60, 159              | 22, 386                 | 3, 356     | 25, 742          | 341           | 381                  |
| 1922 | 25, 483            | 11, 771               | 21, 688    | 58, 942              | 22, 348                 | 2, 789     | 25, 137          | 332           | 370                  |
| 1923 | 25, 571            | 12, 826               | 21, 452    | 59, 849              | 22, 271                 | 2, 317     | 24, 588          | 354           | 395                  |
| 1924 | 29, 037            | 14, 113               | 26, 154    | 69, 304              | 22, 050                 | 1, 968     | 24, 018          | 372           | 415                  |
| 1925 | 27, 880            | 12, 097               | 26, 599    | 66, 576              | 21, 578                 | 1, 707     | 23, 285          | 390           | 435                  |
| 1926 | 23, 197            | 10, 091               | 22, 482    | 55, 770              | 21, 038                 | 1, 531     | 22, 569          | 391           | 435                  |
| 1927 | 21, 665            | 10, 484               | 19, 956    | 52, 105              | 20, 490                 | 1, 496     | 21, 986          | 394           | 438                  |
| 1928 | 23, 647            | 11, 194               | 20, 655    | 55, 496              | 19, 765                 | 1, 427     | 21, 192          | 415           | 461                  |
| 1929 | 26, 011            | 11, 048               | 24, 814    | 61, 873              | 19, 120                 | 1, 328     | 20, 448          | 427           | 475                  |
| 1930 | 25, 371            | 10, 703               | 22, 968    | 59, 042              | 18, 514                 | 1, 230     | 19, 744          | 404           | 449                  |
| 1931 | 24, 685            | 9, 640                | 21, 380    | 55, 705              | 17, 981                 | 1, 143     | 19, 124          | 420           | 468                  |
| 1932 | 24, 338            | 9, 776                | 20, 721    | 54, 835              | 17, 375                 | 1, 093     | 18, 468          | 402           | 450                  |

|      |         |         |         |         |         |        |         |     |     |        |
|------|---------|---------|---------|---------|---------|--------|---------|-----|-----|--------|
| 1932 | 27, 340 | 9, 768  | 22, 193 | 59, 301 | 16, 822 | 990    | 17, 812 | 386 | 437 | 5, 946 |
| 1933 | 29, 719 | 9, 975  | 22, 433 | 62, 127 | 16, 404 | 933    | 17, 337 | 391 | 445 | 6, 852 |
| 1934 | 27, 581 | 8, 654  | 22, 386 | 58, 621 | 15, 984 | 1, 013 | 16, 997 | 385 | 434 | 6, 309 |
| 1935 | 15, 425 | 6, 078  | 17, 563 | 39, 066 | 15, 473 | 1, 210 | 16, 683 | 350 | 390 | 5, 499 |
| 1936 | 20, 024 | 7, 714  | 15, 237 | 42, 975 | 14, 839 | 1, 387 | 16, 226 | 363 | 403 | 5, 731 |
| 1937 | 21, 234 | 7, 104  | 14, 745 | 43, 083 | 14, 330 | 1, 472 | 15, 802 | 380 | 424 | 6, 358 |
| 1938 | 21, 025 | 7, 560  | 15, 940 | 44, 525 | 13, 690 | 1, 555 | 15, 245 | 353 | 390 | 6, 096 |
| 1939 | 25, 111 | 9, 460  | 15, 441 | 50, 012 | 13, 273 | 1, 519 | 14, 792 | 376 | 419 | 6, 489 |
| 1940 | 30, 044 | 9, 413  | 21, 708 | 61, 165 | 13, 000 | 1, 478 | 14, 478 | 393 | 438 | 8, 569 |
| 1941 | 26, 328 | 8, 565  | 19, 460 | 54, 353 | 12, 651 | 1, 453 | 14, 104 | 381 | 423 | 7, 193 |
| 1942 | 31, 090 | 10, 699 | 18, 818 | 60, 607 | 12, 346 | 1, 309 | 13, 655 | 428 | 477 | 7, 485 |
| 1943 | 38, 401 | 13, 334 | 22, 146 | 73, 881 | 12, 117 | 1, 114 | 13, 231 | 489 | 542 | 6, 600 |
| 1944 | 42, 337 | 10, 825 | 30, 579 | 83, 741 | 11, 668 | 945    | 12, 613 | 524 | 582 | 7, 429 |
| 1945 | 27, 221 | 9, 229  | 22, 923 | 59, 373 | 11, 116 | 834    | 11, 950 | 474 | 516 | 7, 082 |
| 1946 | 30, 049 | 9, 390  | 21, 867 | 61, 306 | 10, 434 | 675    | 11, 109 | 473 | 523 | 7, 862 |
| 1947 | 26, 754 | 9, 522  | 20, 534 | 56, 810 | 9, 578  | 551    | 10, 129 | 431 | 467 | 5, 879 |
| 1948 | 26, 999 | 8, 681  | 18, 910 | 54, 590 | 8, 800  | 479    | 9, 279  | 418 | 450 | 3, 959 |
| 1949 | 28, 925 | 9, 807  | 17, 525 | 56, 257 | 8, 074  | 424    | 8, 498  | 399 | 431 | 4, 622 |
| 1950 | 31, 704 | 10, 248 | 16, 985 | 58, 937 | 7, 415  | 366    | 7, 781  | 424 | 457 | 5, 124 |
| 1951 | 34, 186 | 10, 452 | 17, 631 | 62, 269 | 6, 732  | 304    | 7, 036  | 399 | 431 | 5, 037 |
| 1952 | 34, 197 | 9, 395  | 18, 525 | 62, 117 | 5, 887  | 263    | 6, 150  | 397 | 427 | 5, 725 |
| 1953 | 28, 801 | 7, 845  | 15, 049 | 51, 755 | 5, 166  | 237    | 5, 403  | 373 | 398 | 5, 086 |
| 1954 | 26, 272 | 8, 420  | 10, 422 | 45, 114 | 4, 572  | 219    | 4, 791  | 371 | 397 | 4, 956 |
| 1955 | 29, 906 | 9, 063  | 11, 505 | 50, 474 | 4, 101  | 208    | 4, 309  | 369 | 391 | 4, 917 |
| 1956 | 34, 062 | 8, 557  | 12, 554 | 55, 173 | 3, 728  | 200    | 3, 928  | 360 | 383 | 4, 923 |
| 1957 | 33, 246 | 8, 423  | 10, 538 | 52, 207 | 3, 364  | 194    | 3, 558  | 371 | 393 | 5, 745 |

<sup>1</sup> Turkeys not reported before 1929.



Animal power has been replaced by tractor power, and horses and mules on farms have been replaced with cattle. At the peak of the cattle cycle in 1918, there were 73 million cattle in the United States. In 1956, the most recent high point, there were 96.8 million cattle, an increase of 23.8 million head. There were 10 million fewer sheep. Thus, it might be said that 24 million head of cattle took the place of 23 million horses and mules and 10 million sheep by 1956. From 1918 to 1956, the number of dairy cattle increased by 15 percent, while the number of beef cattle increased by 45 percent.

Total live-weight production of most kinds of meat animals and production of livestock products have increased more in the last 46 years than has the number of livestock. Production of milk has nearly doubled; the number of eggs produced has more than doubled; from 1918 to 1956, production of cattle increased by about 68 percent, while the number of cattle increased by about 33 percent. Hog production has increased by more than half since 1910. Production of milk per cow and of eggs per hen are much higher than in earlier years. More pigs per sow are raised. Production of commercial broilers and raising of turkeys have become important segments of the poultry industry within the last 20 years.

Production of milk in 1956 was the highest of record. It represented a continuation of the steady upward trend that had persisted over the 46-year period. Production of sheep and wool was upward from 1922 to 1942, but since 1942 it has dropped sharply. In 1950, the number of sheep on farms was the lowest since the keeping of records began in 1867. In the sheep industry, production of meat in recent years has become much more important than has production of wool. In 1910, about 30 pounds of wool were produced for every 100 pounds of sheep and lambs produced, as against 18 pounds or less in recent years. Production of eggs is more than double what it was from 1910 to 1920, and poultry meat is 3 times as large. Much of the increase in production of livestock that has come since 1940 is a direct result of World War II and the good incomes since the war.

### **Animal Units of Livestock Fed Annually**

The numbers of the different kinds of livestock may be combined into grain-consuming animal units on the basis of the average quantity of grain and other concentrates consumed per head (23). Feed requirements of the average milk cow from 1940 to 1945 are taken as one unit. The number of animal units of grain-consuming livestock on farms in 1909 was about 128 million (table 30). It increased to 158 million in 1922, dropped to 131 million during the drought of the 1930's, then increased during World War II to 193 million units. In 1947, the number dropped to 153 million units, and in 1955 it rose to 166 million units.

Livestock numbers may also be combined into roughage-consuming animal units, using the feed obtained by the average milk cow, from hay, silage, pasture, and other roughage as one unit. Animal units of roughage-consuming livestock on farms since 1909 increased from a low point of about 81 million units in 1911 to about 95 million in 1918; decreased to another low point of about 79 million units in 1927; increased to 92 million units in 1933, and were then cut down by the droughts to 82 million in 1938. They then increased to about 97 million units in 1943; in 1948 they were back to 82 million units; and by 1956 they had increased to 94 million units. The year 1956

corresponds approximately with the high points of previous cycles since 1910. The decrease in numbers of horses and mules since 1917 and in numbers of sheep in recent years has been offset by an increase in beef cattle in the last 20 years.

Livestock numbers may also be combined on the basis of all feed used, including grain and roughage. Animal units of grain and roughage-consuming livestock on farms increased from 93 million units in 1909 to about 106 million in 1918, decreased to about 96 million units in 1927, then increased to 106 million units in 1933 when the droughts intervened. A low point of 95 million units was reached in 1937. From that point, they increased to a new high of about 120 million units in 1943. In 1956, they stood at 111 million. Long-time fluctuations in roughage-consuming livestock correspond fairly well with the beef-cattle cycle. Abrupt decreases in the feed supply, such as those caused by the droughts of the 1930's, reduce the numbers of livestock that are dependent upon this particular feed supply.

*Animal units* are determined from *numbers* of livestock of different kinds on farms on January 1 and those raised during the year. *Livestock production units* have been devised in which the feed concentrates required for production of 100 pounds of milk, 1 dozen eggs, 100 pounds of hogs, and so on are used in the calculation (17). The feed used by the average milk cow in 1940-45 is taken as one unit. This unit is a somewhat more accurate device than the animal unit for estimating feed concentrates needed for the United States, but estimates of production are not available for all classes of livestock.

## UTILIZATION OF FEED BY LIVESTOCK

### Effect of Decline in Number of Horses and Mules on Use of Feed

The number of horses and mules 2 years old and over on January 1, 1957, was 3.4 million, compared with 22.6 million in 1919, the peak year. Substitution of mechanical power for horses and mules means that large quantities of feed that formerly went to feed horses and mules are now used for production of milk, meat, and poultry products. The feed thus diverted probably amounts to about 23 million tons of grain (fig. 4) and 29 million tons of hay, or about 20 percent of all concentrates and 26 percent of all hay fed in 1955-56. There is also a saving in pasture. Before 1920, about a fourth of all feed, including pasture, went to horses and mules, but in 1955 this figure was 3 percent and it is still declining.

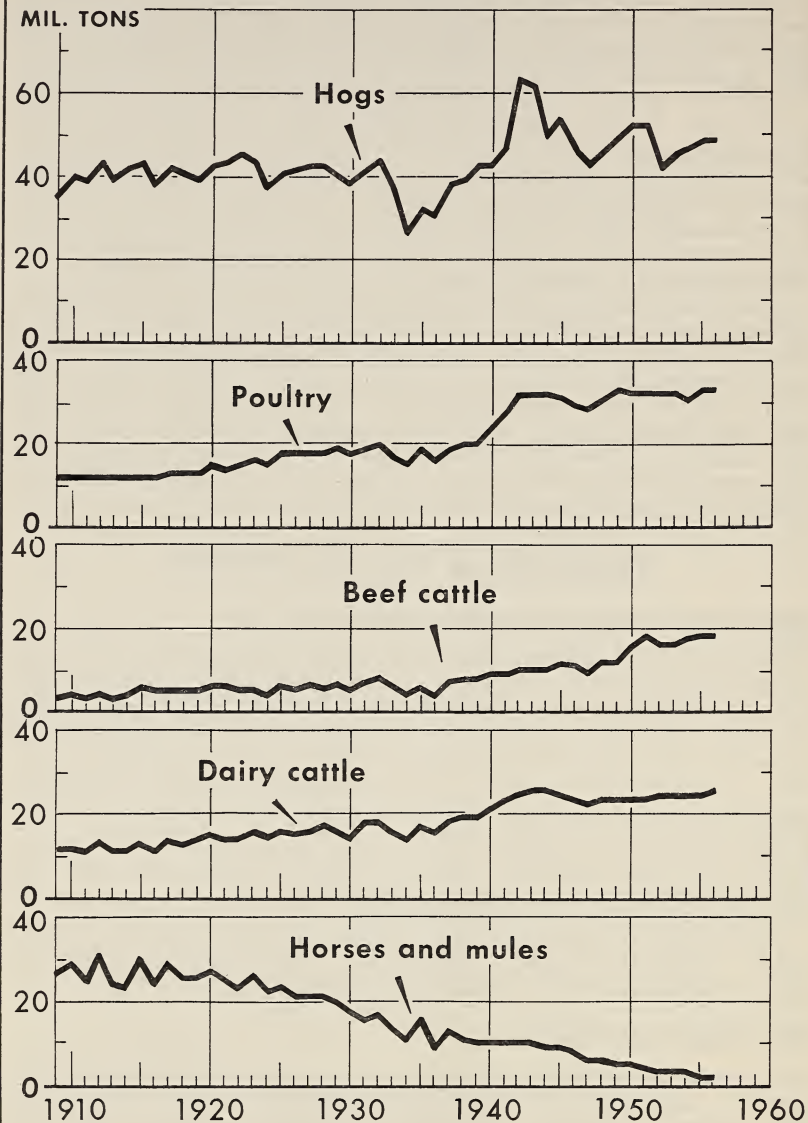
The number of horses in cities has also declined during the last 30 years. Probably at least 1 million more tons of grain and 6 million more tons of hay were fed to city horses in 1918 than in 1955.

### Other Changes in Feed Utilization

In recent years, dairy cattle got 30 percent of all feed, including pasture, consumed by livestock, beef cattle 33 percent, hogs 17 percent, poultry 11 percent, and horses and mules 4 percent (table 10). Before 1920, 20 to 25 percent of all feed went to horses and mules. Thus, a great shift in quantities of all feed consumed, away from horses and mules to food-producing livestock, has occurred. All classes of livestock, except horses and mules and sheep, now receive a larger share of the total feed supply than they received before 1920. Poultry and beef cattle show the greatest increase.

# CONCENTRATES

Feed Units Consumed by Livestock



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FIGURE 4.

Hogs were fed more than 45 percent of all corn consumed by livestock in recent years, poultry 19 percent, dairy cattle 13 percent, beef cattle 15 percent, and horses and mules only 3 percent. Before 1920, horses and mules got more than a fourth of all corn but today they get only a small percentage. In recent years, horses and mules have consumed less than 10 percent of the oat crop, while dairy cattle, hogs, and poultry each got 20 percent or more. Before 1920, 46 percent of the oats went to horses and mules. When all grain is considered together, hogs consumed more than 40 percent in recent years and poultry about 23 percent. Twenty-seven percent of commercial byproduct feeds go to dairy cattle and about 37 percent to poultry. More than half of all hay has been fed to dairy cattle in recent years, and about 30 percent to beef cattle (fig. 5). Before 1920, horses and mules got a larger percentage of the total than did dairy cattle. More than half the pasture of the country is used to feed beef cattle and about 28 percent of it goes to dairy cattle (fig. 6). Before 1920, horses and mules and sheep together got about 30 percent of the pasture.

In recent years, dairy cattle have received about 35 percent of their feed from pasture, 29 percent from hay, and about 26 percent from grain and commercial byproduct feeds (table 3). The trend has been toward more hay and concentrates and less dependence on pasture. A similar trend is observable for beef cattle. Pasture makes up more than 60 percent of all feed for beef cattle and more than 75 percent for sheep. Corn makes up nearly 65 percent of the feed for hogs and about 40 percent of the feed for poultry. Other grains have increased in importance over the years for both hogs and poultry at the expense of corn. Commercial byproducts have been a much more important source of feed for poultry in the last 10 to 15 years than they were 35 to 40 years ago. Horses probably use less corn and more hay per head in recent years than they used when they did all the work on farms.



TABLE 10.—Percentage of specified feeds consumed by different kinds of livestock, averages 1909-55

ALL FEED INCLUDING PASTURE <sup>1</sup>

| Period       | Dairy cattle   | Beef cattle    | Sheep and goats | Hogs           | Poultry        | Horses and mules | Other livestock | Total          |
|--------------|----------------|----------------|-----------------|----------------|----------------|------------------|-----------------|----------------|
|              | <i>Percent</i> | <i>Percent</i> | <i>Percent</i>  | <i>Percent</i> | <i>Percent</i> | <i>Percent</i>   | <i>Percent</i>  | <i>Percent</i> |
| 1909-19----- | 21.8           | 23.5           | 6.8             | 15.5           | 4.9            | 24.5             | 3.0             | 100            |
| 1920-29----- | 24.9           | 21.5           | 6.8             | 16.3           | 6.9            | 21.6             | 2.0             | 100            |
| 1930-39----- | 29.4           | 20.3           | 8.3             | 16.0           | 8.2            | 16.5             | 1.3             | 100            |
| 1940-49----- | 30.2           | 24.2           | 6.4             | 17.8           | 10.4           | 9.7              | 1.3             | 100            |
| 1950-55----- | 29.6           | 32.6           | 4.2             | 16.5           | 11.0           | 4.3              | 1.8             | 100            |

ALL CONCENTRATES

|              |      |      |     |      |      |      |     |     |
|--------------|------|------|-----|------|------|------|-----|-----|
| 1909-19----- | 10.8 | 4.3  | .9  | 38.4 | 12.0 | 28.9 | 4.7 | 100 |
| 1920-29----- | 13.1 | 5.0  | .9  | 38.1 | 15.9 | 23.6 | 3.4 | 100 |
| 1930-39----- | 16.7 | 6.2  | 1.2 | 37.6 | 20.0 | 15.7 | 2.6 | 100 |
| 1940-49----- | 18.0 | 7.9  | .8  | 39.0 | 24.0 | 7.3  | 3.0 | 100 |
| 1950-55----- | 18.5 | 12.4 | .7  | 36.2 | 25.3 | 2.9  | 4.0 | 100 |

ALL GRAIN

|              |      |      |     |      |      |      |     |     |
|--------------|------|------|-----|------|------|------|-----|-----|
| 1909-19----- | 8.5  | 4.0  | .9  | 39.8 | 11.6 | 30.7 | 4.5 | 100 |
| 1920-29----- | 10.3 | 4.4  | .9  | 40.7 | 15.0 | 25.5 | 3.2 | 100 |
| 1930-39----- | 12.8 | 5.9  | 1.2 | 41.6 | 18.4 | 17.8 | 2.3 | 100 |
| 1940-49----- | 15.6 | 7.6  | .8  | 43.2 | 21.8 | 8.3  | 2.7 | 100 |
| 1950-55----- | 16.6 | 11.8 | .7  | 41.2 | 22.8 | 3.3  | 3.6 | 100 |

CORN

|              |      |      |     |      |      |      |     |     |
|--------------|------|------|-----|------|------|------|-----|-----|
| 1909-19----- | 5.8  | 4.0  | .5  | 45.6 | 10.5 | 28.6 | 5.0 | 100 |
| 1920-29----- | 7.5  | 4.8  | .3  | 46.9 | 13.9 | 23.3 | 3.3 | 100 |
| 1930-39----- | 7.7  | 7.1  | 1.0 | 48.7 | 15.4 | 17.9 | 2.2 | 100 |
| 1940-49----- | 12.3 | 9.3  | 1.0 | 48.6 | 18.1 | 7.9  | 2.8 | 100 |
| 1950-55----- | 13.2 | 14.8 | .7  | 45.7 | 18.6 | 3.0  | 4.0 | 100 |

OATS

|              |      |     |     |      |      |      |     |     |
|--------------|------|-----|-----|------|------|------|-----|-----|
| 1909-19----- | 16.8 | 3.1 | 2.0 | 17.1 | 12.3 | 45.6 | 3.1 | 100 |
| 1920-29----- | 18.1 | 3.1 | 2.3 | 17.7 | 15.0 | 40.9 | 2.9 | 100 |
| 1930-39----- | 27.3 | 3.1 | 1.6 | 22.7 | 16.3 | 27.0 | 2.0 | 100 |
| 1940-49----- | 28.6 | 4.0 | .6  | 30.0 | 19.7 | 14.8 | 2.3 | 100 |
| 1950-55----- | 29.6 | 4.9 | .5  | 35.0 | 21.3 | 5.8  | 2.9 | 100 |

COMMERCIAL BYPRODUCTS

|              |      |      |     |      |      |      |     |     |
|--------------|------|------|-----|------|------|------|-----|-----|
| 1909-19----- | 31.4 | 6.9  | 1.0 | 25.5 | 15.2 | 13.1 | 6.9 | 100 |
| 1920-29----- | 35.7 | 8.4  | 1.1 | 17.6 | 23.6 | 8.6  | 5.0 | 100 |
| 1930-39----- | 42.4 | 8.2  | 1.2 | 12.0 | 30.1 | 1.7  | 4.4 | 100 |
| 1940-49----- | 31.8 | 9.3  | .9  | 14.9 | 37.4 | 1.2  | 4.5 | 100 |
| 1950-55----- | 27.0 | 14.8 | .7  | 14.6 | 36.5 | 1.0  | 5.4 | 100 |

See footnote on p. 37.

TABLE 10.—Percentage of specified feeds consumed by different kinds of livestock, averages 1909-55—Continued

ALL ROUGHAGE INCLUDING PASTURE <sup>1</sup>

| Period       | Dairy cattle   | Beef cattle    | Sheep and goats | Hogs and poultry | Horses and mules | Other livestock | Total          |
|--------------|----------------|----------------|-----------------|------------------|------------------|-----------------|----------------|
|              | <i>Percent</i> | <i>Percent</i> | <i>Percent</i>  | <i>Percent</i>   | <i>Percent</i>   | <i>Percent</i>  | <i>Percent</i> |
| 1909-19----- | 27.7           | 35.0           | 10.4            | 1.5              | 23.3             | 2.1             | 100            |
| 1920-29----- | 32.0           | 32.7           | 10.8            | 1.8              | 21.6             | 1.1             | 100            |
| 1930-39----- | 37.2           | 29.4           | 13.1            | 1.7              | 18.0             | .6              | 100            |
| 1940-49----- | 39.0           | 36.1           | 10.6            | 2.1              | 11.9             | .3              | 100            |
| 1950-55----- | 38.1           | 47.5           | 6.8             | 1.8              | 5.6              | .2              | 100            |

ALL HARVESTED ROUGHAGE

|              |      |      |     |       |      |     |     |
|--------------|------|------|-----|-------|------|-----|-----|
| 1909-19----- | 34.9 | 19.0 | 3.6 | ----- | 36.3 | 6.2 | 100 |
| 1920-29----- | 41.2 | 17.9 | 3.9 | ----- | 33.9 | 3.1 | 100 |
| 1930-39----- | 48.4 | 19.1 | 4.7 | ----- | 26.2 | 1.6 | 100 |
| 1940-49----- | 54.3 | 23.9 | 4.5 | ----- | 16.5 | .8  | 100 |
| 1950-55----- | 55.7 | 33.8 | 2.9 | ----- | 6.9  | .7  | 100 |

HAY

|              |      |      |     |       |      |      |     |
|--------------|------|------|-----|-------|------|------|-----|
| 1909-19----- | 36.8 | 10.8 | 4.2 | ----- | 37.6 | 10.6 | 100 |
| 1920-29----- | 43.3 | 11.0 | 4.5 | ----- | 36.2 | 5.0  | 100 |
| 1930-39----- | 52.7 | 11.2 | 4.9 | ----- | 28.6 | 2.6  | 100 |
| 1940-49----- | 58.2 | 18.9 | 4.7 | ----- | 17.1 | 1.1  | 100 |
| 1950-55----- | 58.3 | 31.9 | 3.4 | ----- | 5.5  | .9   | 100 |

PASTURE <sup>1</sup>

|              |      |      |      |     |      |       |     |
|--------------|------|------|------|-----|------|-------|-----|
| 1909-19----- | 24.0 | 43.3 | 13.9 | 2.3 | 16.5 | ----- | 100 |
| 1920-29----- | 27.1 | 40.8 | 14.5 | 2.8 | 14.8 | ----- | 100 |
| 1930-39----- | 30.8 | 35.3 | 18.0 | 2.6 | 13.3 | ----- | 100 |
| 1940-49----- | 31.2 | 42.4 | 13.7 | 3.2 | 9.5  | ----- | 100 |
| 1950-55----- | 28.1 | 55.2 | 9.0  | 2.8 | 4.9  | ----- | 100 |

<sup>1</sup> Calculated from feed-unit tables.

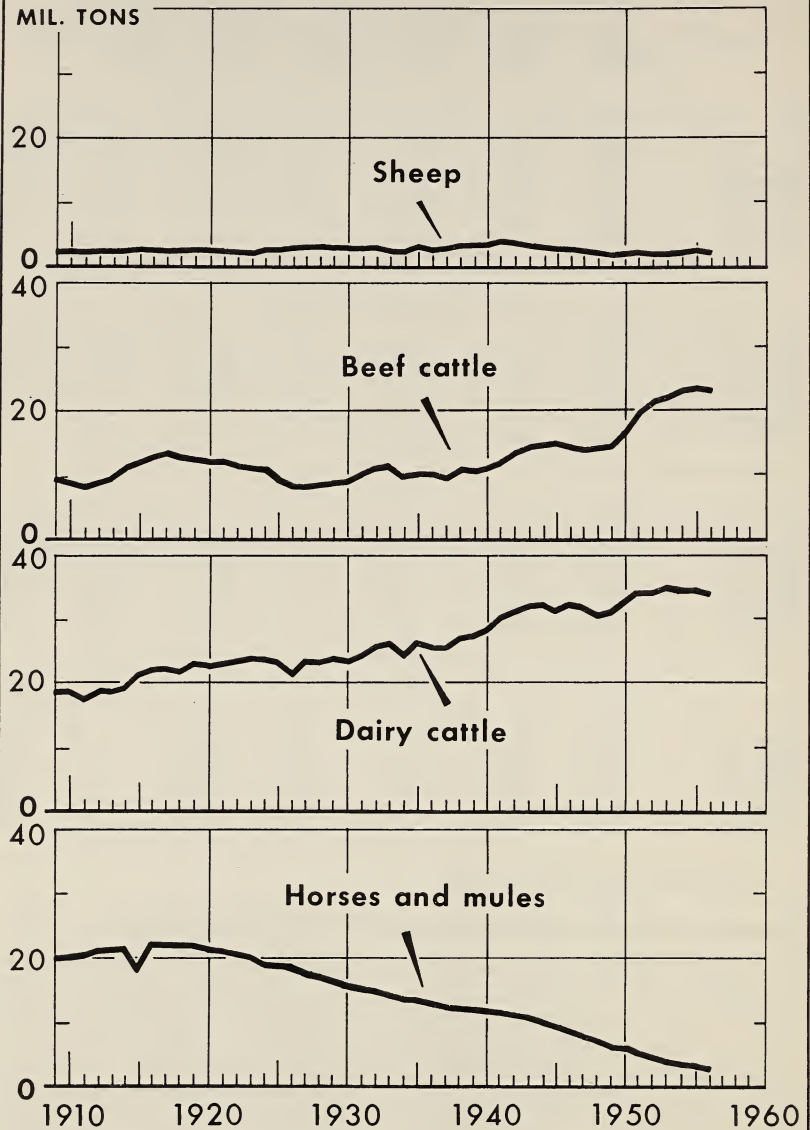
Quantities of Different Kinds of Feed Consumed by Each Kind of Livestock

Tables 31 to 44 show how the principal feeds have been distributed among the different classes of livestock by years since 1909. As used in this report, "concentrates" include grain and commercial byproduct feeds. The feeds consumed as formula feeds as well as those fed as individual feeds are included in all statistics in this report. Although corn in silage is included in the total production of corn in the official statistics for the United States, it is not included as a grain or concentrate in this report. It is included in the tonnage of corn silage as a roughage. However, its distribution is shown separately in table 31 for anyone who wishes to use it.

*The distribution of feeds shown comprises estimates made by the author.*—The quantities shown account for all of each kind of feed fed, as reported in official statistics. If one class of livestock has been

# HARVESTED ROUGHAGE

Feed Units Consumed by Livestock



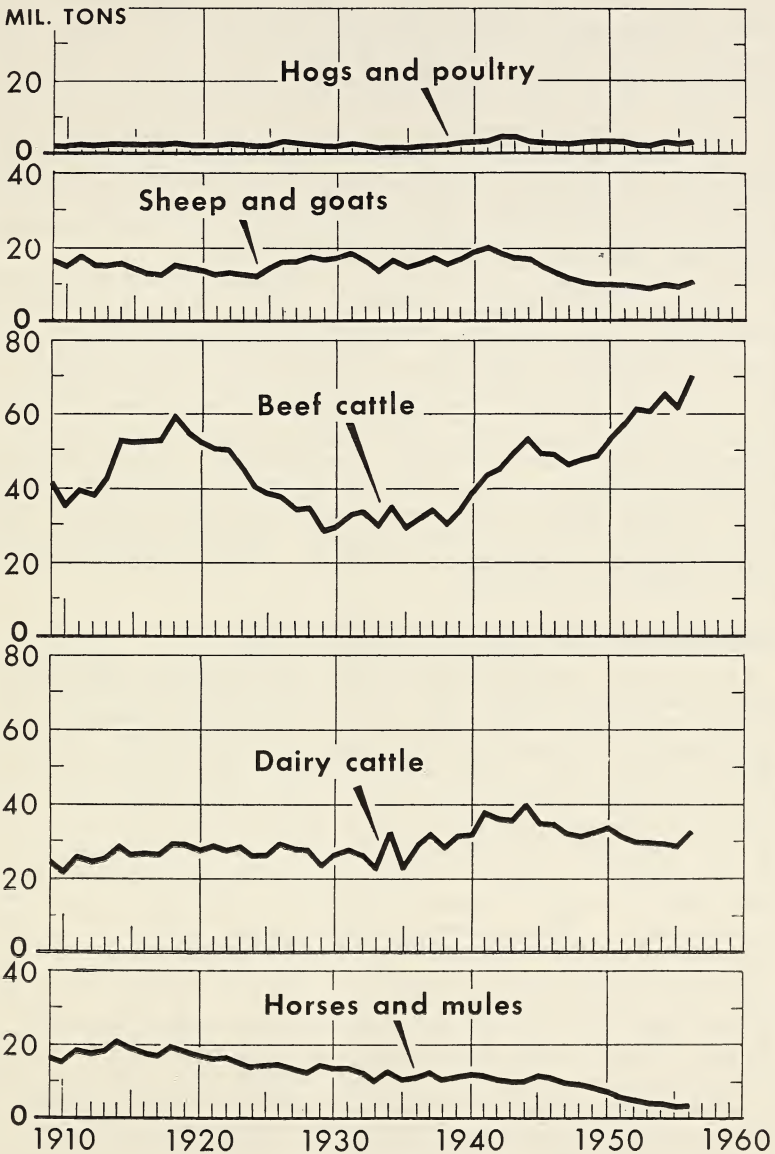
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FIGURE 5.

# PASTURE\*

Feed Units Consumed by Livestock



\*INCLUDING GRAZING

FIGURE 6.



allocated too much feed, some other kind will have less. A large probable error should be allowed for, especially in the more detailed tables.

A word of explanation is needed as to the livestock classifications used. The feed for "dairy cattle" in table 31 and elsewhere in this report includes that for dairy calves and heifers kept for milk and that for dairy bulls as well as the feed for milk cows. Thus, dairy cattle means the whole dairy enterprise, not just the milk cows. Likewise, the feed for "beef cattle" includes that for cattle fattened in feed lots for market, as well as beef cows, young stock, and other stock cattle on both farms and ranches. A similar explanation applies to sheep. Feed for "all poultry" includes that for laying flocks, for raising chickens and commercial broilers, and for raising turkeys. "Other livestock" includes all livestock, pets included, in cities, and ducks, geese, and other minor kinds of livestock on farms.

The principal feeds consumed by the different classes of livestock are given in tables 45 to 77, inclusive. *Tables 45 to 63 show feed in tons of grain, hay, and so on, as actually fed while tables 64 to 77 show feeds fed expressed in feed units.* Separate estimates for most of the grains and byproduct feeds are given for the broad classes of livestock. The feed includes that fed as mixed feed as well as that fed alone. Separate estimates for seeds, skim milk, hay, silage, and stover are shown for each class of livestock. Feed for dairy cattle is separated into feed for milk cows and other dairy cattle in tables 47 and 48. Feed for beef cattle is separated into feed for grain-fattened cattle and other beef cattle in tables 51 and 52. Feed for poultry is given in three tables; one for hens and pullets, one for chickens raised, and one for broilers and turkeys.

### **Feeds Consumed per Head or per Unit of Livestock Product**

The average yearly feeding rate per head, or feed consumed per unit of livestock product for the United States, is given in table 11 and many of the tables from 45 to 77. Per head rates for dairy cattle show milk cows and other dairy cattle separately. Rates per 100 pounds of milk in table 63 include only the feed for milk cows. There are two rates for beef cattle: (1) Feed fed to all cattle grain-fattened in the year, divided by the number on feed January 1, and (2) feed consumed by all other beef cattle, divided by the number on farms January 1. The total number of cattle grain-fattened during the year is now about 70 percent larger than the number reported on feed January 1. This number has increased in the last 10 to 15 years. Feed for all cattle except milk cows was divided by the net live-weight production of cattle and calves to get a rate per 100 pounds of cattle and calves produced (tables 11 and 63). In this calculation, feed for milk cows was omitted, because this is mainly for milk production. Most of the gain in weight and the feed for that gain are accounted for by young dairy cattle. Feed for all sheep and lambs divided by the number of sheep and lambs on farms January 1 is given in table 54. Feed per 100 pounds of sheep and lambs produced is given in table 63.

Feeding rates are given for laying flocks per head of hens and pullets on farms January 1, per head of average number of layers during the year, and per 100 eggs produced, in table 11 and some rates in table 58. Feeding rates for chickens, broilers, and turkeys raised are given per head raised and per 100 pounds raised. Feeding rates for

turkeys take into account the feed used by breeding flocks. Feeding rates for horses and mules 2 years old and over are given. Rates for colts under 2 years are not included. Feed for hogs is given per 100 pounds live weight produced, and per hog fed. Both figures include feed for breeding herds.

Less grain is fed to each work animal (fig. 7) and total input of all feed, per head, is probably a little smaller than before 1920, as most of the heavy work is now done with tractors. However, the change is probably not so great as one might expect, as a larger percentage of all work animals are in the South where much work is still done with horses and mules.

The total quantities of feed of different kinds consumed by all livestock expressed in feed units are given in table 64. The total quantities of feed consumed by the principal kinds of livestock are given in table 65. The quantities of feed consumed by the different classes of livestock in feed units for all concentrates, harvested roughage, pasture and grazing, and all roughage are given in tables 66 to 69, inclusive, and in figures 4, 5, and 6. The different kinds of feeds consumed, expressed in feed units for the principal classes of livestock, are shown in tables 70 to 75, and the feed units consumed per head or per unit of production are given in tables 11, 76, and 77.

It may be seen that feed input per milk cow has increased over the years but input per 100 pounds of milk has probably decreased around 10 to 12 percent in the last 40 years (fig. 8). Feed input per head of cattle on feed January 1 has increased greatly, but this is because more cattle are put on feed throughout the year than formerly when summer feeding was light. Probably the amount of feed required to put 100 pounds gain on cattle has decreased somewhat. Since 1910-15, the decrease has amounted to about 15 percent. From 1910, when hardly any high-protein feeds were fed, to 1930, the amount of feed required to produce 100 pounds of hogs decreased decidedly (fig. 8). Since 1930, the decrease has been slight.

The average feed input per hen and pullet in the laying flock in the United States has increased over the years for three reasons: (1) The average weight of hens and pullets has increased by 1 pound since 1925 and probably by 1½ pounds or more since 1910. Theoretically, this would require about 13 pounds more feed per head per year. (2) Egg production per hen has increased by about 75 eggs since 1910. This would require about 11 more pounds of feed per hen. (3) In the last 15 or 20 years, a larger share of the feed consumed by the laying flock comes from commercial supplies and a smaller share comes from salvaged grain, insects, worms, and so on (fig. 9). In 1949, about 30 percent of the hens and pullets were in flocks of less than 100 chickens. In earlier decades, this percentage was larger.

Theoretically, from 20 to 25 more pounds of feed per hen and pullet should be required now than in 1910 (fig. 9). The difference in amount of feed fed as given in tables 58 and 77 is about 40 pounds. Probably on the average, something like 20 to 25 pounds of feed were salvaged in 1910 as compared with perhaps 5 to 10 pounds now. If all the feed were counted, feed consumption per dozen eggs produced has probably decreased by 25 percent since 1910 (fig. 10).

The feed required in raising replacements for the laying flock is greater per head and per 100 pounds than it was 40 years ago. Forty years ago, chickens were smaller at maturity, and a larger share of the feed was salvaged. Before the commercial broiler industry be-

TABLE 11.—*Feed used per head and per unit of product of livestock, 1953-55*

| Item  | Unit of livestock or production | Feeds as fed              |        |                     |                     | Feeds expressed in feed units <sup>3</sup> |                                  |            |            |
|---|---------------------------------|---------------------------|--------|---------------------|---------------------|--|----------------------------------|------------|------------|
|   |                                 | Concentrates <sup>1</sup> | Hay    | Silage <sup>2</sup> | Other dry rough-age | Concentrates <sup>4</sup>                  | Harvested rough-age <sup>5</sup> | Pasture    | Total      |
| <b>Dairy:</b>                                     |                                 |                           |        |                     |                     |  |                                  |            |            |
| Milk cows Jan. 1 <sup>6</sup>                     | Head                            | Pounds                    | Pounds | Pounds              | Pounds              | Feed units                                 | Feed units                       | Feed units | Feed units |
| Milk  | Cwt.                            | 1, 630                    | 4, 234 | 3, 986              | 240                 | 1, 667                                     | 2, 399                           | 1, 450     | 5, 516     |
| Other dairy cattle Jan. 1 <sup>7</sup>            | Head                            | 31                        | 80     | 76                  | 4                   | 32   | 45                               | 28         | 105        |
|   | Head                            | 519                       | 2, 013 | 874                 | 100                 | 682  | 1, 004                           | 1, 978     | 3, 664     |
| <b>Beef:</b>                                      |                                 |                           |        |                     |                     |  |                                  |            |            |
| <b>Grain-fattened cattle:</b>                     |                                 |                           |        |                     |                     |  |                                  |            |            |
| On feed Jan. 1 <sup>8</sup>                       | Head                            | 3, 543                    | 2, 640 | 2, 200              | 40                  | 3, 917                                     | 1, 472                           | 579        | 5, 968     |
| Fattened during year <sup>9</sup>                 | do.                             | 2, 130                    | 1, 580 | 1, 319              | 27                  | 2, 353                                     | 872                              | 346        | 3, 571     |
| Gain in weight                                    | Cwt.                            | 485                       | 359    | 300                 | 6                   | 539  | 197                              | 77         | 813        |
| Other beef cattle Jan. 1 <sup>10</sup>            | Head                            | 192                       | 1, 080 | 280                 | 506                 | 223  | 671                              | 2, 242     | 3, 136     |
| Cattle produced <sup>11</sup>                     | Cwt.                            | 133                       | 354    | 138                 | 105                 | 140  | 207                              | 546        | 893        |
| <b>Sheep and lambs:</b>                           |                                 |                           |        |                     |                     |  |                                  |            |            |
| On farm Jan. 1                                    | Head                            | 53                        | 238    | 40                  | 40                  | 55   | 112                              | 561        | 728        |
| Quantity produced <sup>12</sup>                   | Cwt.                            | 106                       | 469    | 76                  | 174                 | 109  | 241                              | 1, 082     | 1, 432     |
| <b>Horses and mules:</b>                          |                                 |                           |        |                     |                     |  |                                  |            |            |
| 2 yrs. old and over                               | Head                            | 1, 337                    | 2, 272 |                     | 1, 940              | 1, 270                                     | 1, 602                           | 1, 918     | 4, 790     |
| Colts   | do.                             | 223                       | 2, 274 |                     | 380                 | 224  | 1, 054                           | 1, 974     | 3, 252     |
| Hogs produced <sup>13</sup>                       | Cwt.                            | 452                       |        |                     |                     | 490  |                                  | 24         | 514        |
| <b>Chickens:</b>                                  |                                 |                           |        |                     |                     |  |                                  |            |            |
| Hens and pullets, Jan. 1 <sup>14</sup>            | Head                            | 88                        |        |                     |                     | 90   |                                  | 2          | 92         |
| Hens and pullets, average for years <sup>14</sup> | do.                             | 103                       |        |                     |                     | 107  |                                  | 1          | 108        |
| Eggs  | 100 eggs                        | 54                        |        |                     |                     | 55   |                                  | 1          | 56         |
| <b>Chickens raised:</b>                           |                                 |                           |        |                     |                     |  |                                  |            |            |
| Number  | Head                            | 24, 6                     |        |                     |                     | 25, 6                                      |                                  | 1, 1       | 26, 7      |
| Quantity produced                                 | Cwt.                            | 539                       |        |                     |                     | 559  |                                  | 22         | 581        |





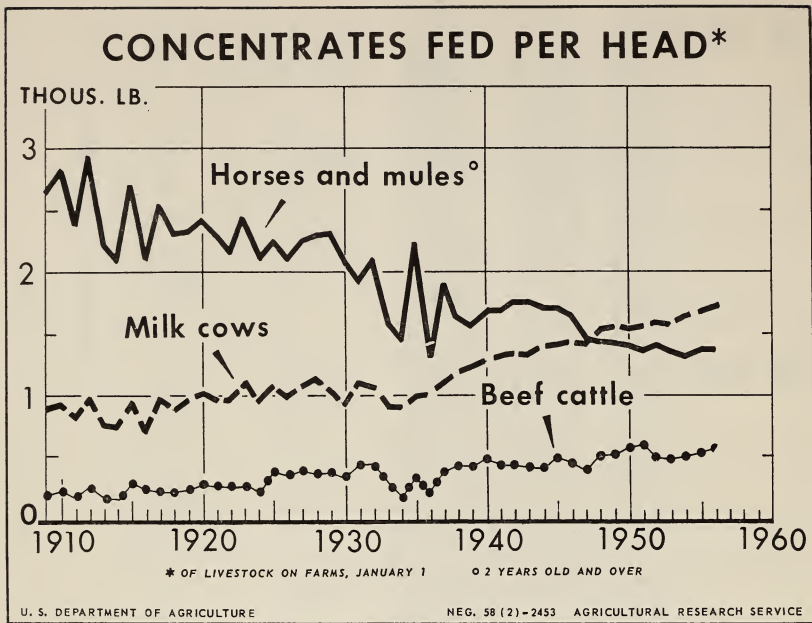


FIGURE 7.

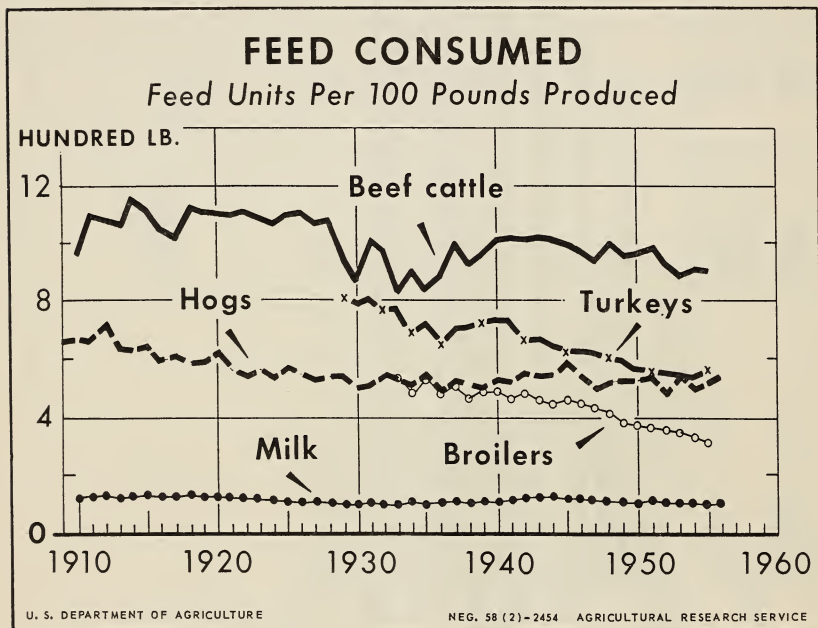


FIGURE 8.

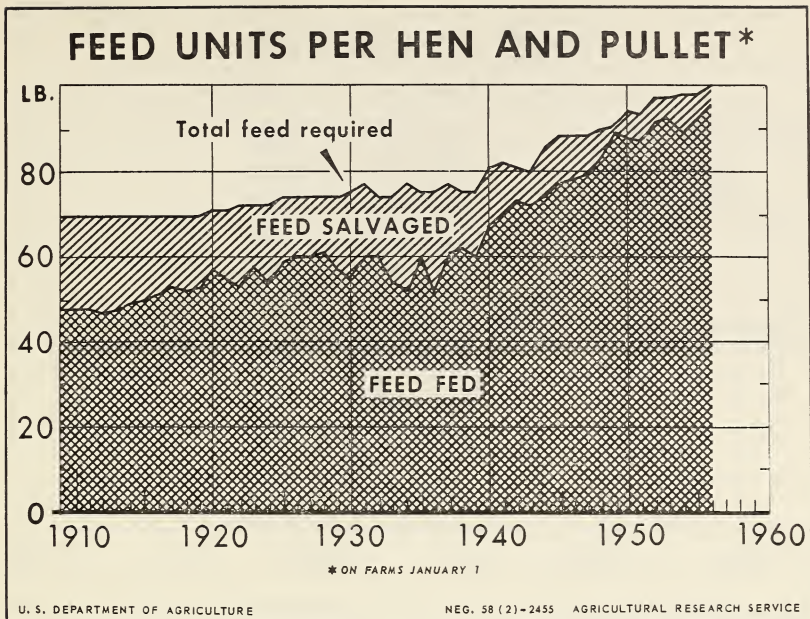


FIGURE 9.

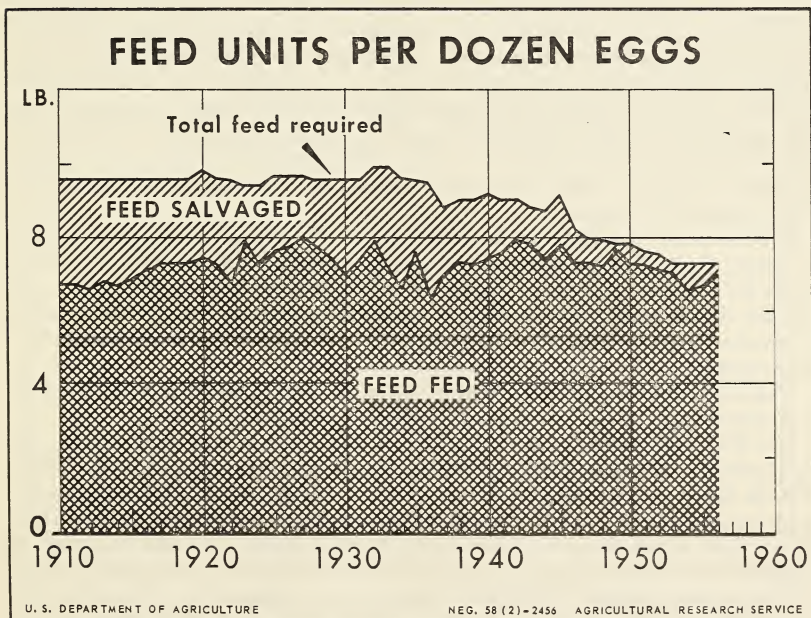


FIGURE 10.

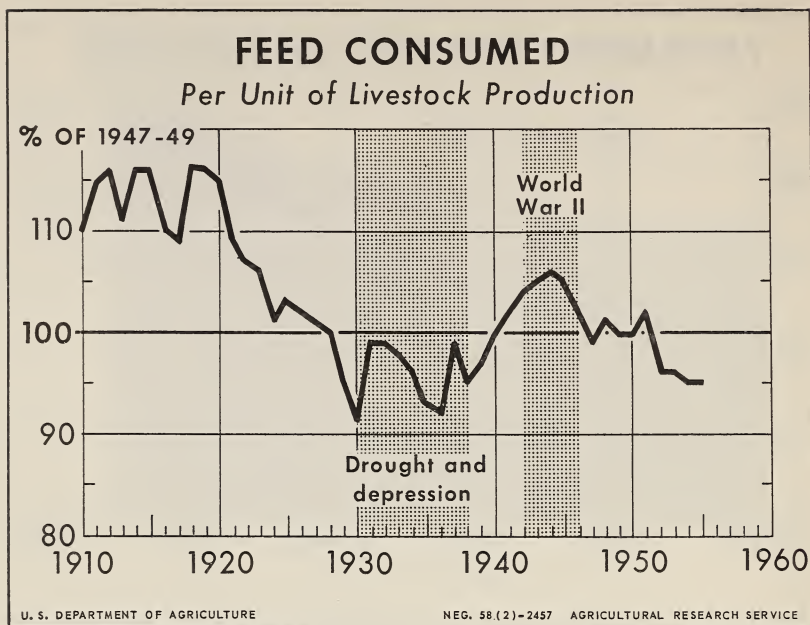


FIGURE 11.

came so important, chickens in farm flocks were raised for meat and a larger proportion may have been sold as fryers. Thus, it is difficult to estimate the change in feed consumed for farm-raised chickens. Feed consumed per 100 pounds of broiler in the last 20 years has shown a substantial downtrend. It is now probably 35 to 40 percent less than in 1935 and is still decreasing (fig. 8). Feed consumed per 100 pounds of turkey produced has decreased somewhat. A part of this decrease probably is due to the introduction of smaller breeds of turkeys in recent years and to the marketing of much of the turkey crop at lighter weights.

The overall decrease in feed consumed per unit of livestock production, excluding horses and mules, since 1910 has probably been at least 20 percent or nearly one-half of 1 percent a year (fig. 11). In periods of favorable livestock prices, such as war periods, feed is used somewhat less efficiently. Apparently, in times of feed shortages, more production is obtained per unit of feed.

Year-to-year changes in quantity of feed fed per head or used to produce a unit of product may be due to several things:

(1) The composition and quality of the rations fed vary with relative prices. During the depression, grain was so cheap in some areas remote from market that farmers could not afford to buy high-protein supplements that would balance the rations, and much more than the usual proportion of unground grain was fed. In the periods of scarcity that followed the droughts, farmers tried to make their grain go as far as possible. Rations were better balanced and waste was reduced to a minimum.

(2) The quantities of hay and grain that must be fed to livestock are affected by the severity of the winter, the length of the pasture



season, and the abundance and quality of pasturage available during the pasture season.

(3) The quantity and kind of feed required per pound of live weight as marketed depends partly on the extent to which the animals are fattened. This varies from year to year, depending chiefly on the relative prices of livestock and feed. Light hogs can be produced with less feed per pound than heavy hogs. In some years, more cattle are fed for a long time on grain than in other years. Some cattle are fattened on pasture with little or no grain. Turkeys sold at 6 months are still growing rapidly and they average only 4 pounds of feed per pound of growth up to that time. But if they are fattened for an additional month, much more feed is required for each pound of weight added. However, the slower growth of livestock during the fattening period does not mean production that is correspondingly less efficient. Fattening increases the dressing percentage, the percentage of the dressed carcass that is edible, and the calories per pound of edible portion if all the fat is used for food.

(4) The quantity of feed required depends on the kind of feed and the kind of livestock. Substituting corn for oats, or substituting alfalfa hay for timothy hay ordinarily reduces the pounds of feed but not the feed units required per unit of output. Substitution of dairy-breeding cows for dual-purpose or beef-breeding cattle ordinarily decreases the amount of feed required per 100 pounds of milk, but it may increase the amount required per unit of beef production. As a rule, farmers who keep Leghorn hens use less feed per 100 eggs produced and more feed per 100 pounds of chickens marketed than do farmers who keep heavier breeds. Improved breeding tends to decrease the quantity of feed required per 100 eggs and per 100 pounds of milk. When present conditions are compared with those prevailing 30 to 40 years ago, these changes are important.

(5) Livestock losses increase feed consumption per unit of output. Losses of pigs and lambs in spring storms, loss of hogs from cholera, loss of calves from Bang's disease, heavy mortality of hens, and decreases in production of milk and eggs as a result of diseases all decrease production more than they decrease consumption of feed. In 1955, it was estimated that of 50 million hogs on farms January 1 and 95 million pigs saved, more than 10 million died during the year; these deaths resulted in a total loss of the feed used by the ones that died (46). This does not include the relatively large loss of small pigs that were born alive but were never weaned. Likewise, of 96.6 million cattle on farms January 1, 1955, 1.5 million died, and of 43 million calves born 2.4 million died. Of 31 million sheep and lambs on farms on January 1, 1955, and 20 million lambs saved during the year, a total of 5 million sheep and lambs died. Losses of chickens are still larger. Of 391 million chickens on farms January 1, 1955, an estimated 84 million, or 21 percent, died (41). This does not include losses of young chickens in raising 462 million chickens and 1,092 million broilers. Losses in raising young chickens often amount to 10 to 20 percent of the number of baby chicks started.

Thus, livestock losses represent a heavy loss of feed and labor. Some loss is inevitable but there is room for improvement, especially in production of poultry and hogs. Control of disease is probably a major factor in the longtime trend toward increased efficiency of livestock production.



(6) Some apparent irregularities in feed consumption per unit may result from inadequate statistics on such items as: (a) Errors in estimates of feed production or in number and production of livestock. Most of these estimates are based on reports from a small sample of farmers, and it is perhaps remarkable that the balance between apparent feed consumption and livestock numbers is as close as it is from year to year. (b) Variation in quality of feed produced, especially hay; (c) a current measure of the quantity of feed obtained from pasture, corn stover, and such feeds as velvet beans, and peanuts; (d) the number of livestock in towns, villages, and cities whose feed comes out of the total supply; (e) the quantity of feed destroyed by rats, weevils, and spoilage. Most of the feed-consumption statistics are a residual arrived at by taking out of the total disappearance the quantities exported and used for seed, industrial products, and human food. Losses and errors in all of these statistics are reflected in the residual left for feed.

Efficiency in the use of feed (output per unit of input) has increased for most kinds of livestock over the last 30 or 40 years. For livestock that use large quantities of roughage and pasture, the change is obscured because the quantity and quality of inputs cannot be measured accurately. Much of the progress that has been made in output per unit of feed is due to the development of higher producing strains of livestock and poultry. Egg production per hen has increased steadily over the years. A greater proportion of all hens may be of breeds that have high egg-producing characteristics. Also, high-yielding strains within breeds have been developed.

Production of milk per cow is 30 percent greater than it was 30 years ago. Many kinds of feeds, including pasture, are used in production of milk but their feed value cannot be measured accurately. The "average milk cow" is made up of all kinds of cows. Some are high-producing dairy cows; others are beef cows milked for a short time. The increase in proportion of cows of dairy breeding has influenced the rate of milk production per cow. Scientists and breeders have developed strains of livestock that tend to produce larger quantities of eggs, milk, or meat per head, and in shorter periods of time than formerly. Adoption of these strains results in greater efficiency in use of feed because the quantities of feed used for maintenance do not differ much between low- and high-producing animals, and they represent a fixed cost per animal that can be paid for more easily by high-producing animals or birds.

Greater efficiency in production of livestock could be achieved if farmers could segregate and remove the lowest producing animals in their herds and flocks. Frequently, however, the farmer does not know and perhaps cannot readily find out which are the poorest producing animals. Feeding practices also could be greatly improved. More progress was probably made in livestock nutrition in the last 15 to 20 years than in the previous 50 years but many farmers have not yet put it into practice.

#### **Average Rates of Feeding Compared with Above-average Rates Achieved by the Better Farmers**

Rates given in this report are averages for all farms and all methods of feeding in the United States. They are not meant to apply to a particular farm, locality, State, or region. Average feeding rates on good farms cannot be determined, because for most kinds of livestock

methods of feeding differ in different parts of a State, and one particular method may be the best system for a particular farmer. Rates of feeding vary widely between farms in a given locality, and even on the same farm from year to year. It is probably true that the average efficiency of feeding on well-managed farms is from 10 to 20 percent above the United States average for most kinds of livestock.

## SOME GENERAL CONSIDERATIONS IN FEEDING LIVESTOCK

### Feed Required for Maintenance and Production

An important principle in livestock feeding is that a considerable quantity of feed nutrients is required to keep an animal from day to day without gain or loss in weight before any feed is available for production of gain in weight, or for milk or eggs. This is called feed for maintenance. For a 900-pound cow producing 15 pounds of 4-percent milk a day (U. S. average), 50 to 60 percent of the feed is required for maintenance and less than 50 percent is available to produce milk. The maintenance is about the same for a 900-pound cow, whether she produces an average of 15 or 30 pounds of milk a day. It is therefore important to have cows with inherent ability for high milk production and to feed them up to that level. Then the maintenance or overhead charge per pound of milk will be less than it would be for cows that produce less.

The importance of increasing the inherent producing ability of dairy herds over the years is shown in table 11. It would take fewer cows and much less feed to produce the milk used in this country if the basic producing ability were higher. Good dairy herds probably produce 100 pounds of milk with 20 to 25 percent less feed than the average cow, and high-producing herds are still more efficient. The milk from many of the average milk cows in the United States is produced mainly for home use or for a minor part of the farm income. Also, many cows that are milked and included in the average are mainly beef-breeding cows and when beef prices are high, these cows may be milked only part of the time.

The same principle holds for other livestock. It is even more important to have high-egg-producing strains of chickens than it is to have high-producing milk cows, as poultry scientists say that about 80 percent of the feed fed to the average hen goes for maintenance (54, 1929, p. 801). Thus, a hen laying 100 eggs a year would need 55 pounds of feed for maintenance and 10 pounds to produce the eggs. A hen laying 200 eggs a year would need 55 pounds for maintenance and 20 pounds for eggs, or a total of 75 pounds. In the latter instance, the feed fed per egg produced is 0.375 pound and in the former instance it is 0.65. Thus, important savings in feed per unit of product are made by improvements in egg-laying ability.

It is especially important to consider that dairy-cow requirements vary greatly during the year (25, p. 4). At time of freshening, a cow giving 12,000 pounds of milk annually takes the equivalent of 42 feed units a day. The same cow when dry requires only 10 feed units. High-producing cows thus require high inputs of feed. For this reason, high-producing cows should be fed grain even when they are on very good pasture. They cannot get enough feed from even the best pastures to produce the milk they are capable of producing. If not given the extra feed, they either reduce their milk output or draw

upon their own bodies and lose weight. High-producing milk cows probably get more feed from a day's pasture than do low-producing or dry cows through working either longer or faster. Although excellent pasture does not furnish enough feed for cows of high production, good pasture furnishes enough feed for average cows most of the time. In the North, blue grass pastures that are excellent in May and June commonly dry up in July or August, and dairy cows must be fed grain if they are to maintain milk production.

### Diminishing Returns in Feeding Livestock

Another principle of importance to the livestock industry is that the law of diminishing returns applies to feeding animals as well as to other physical and economic phenomena. Table 12 gives data that bring out this principle for several kinds of livestock. If a dairy cow is fed very sparingly above maintenance needs, the amount of milk produced from the additional feed will be larger than average. If the cow is fed heavily and still more feed is added, the amount of milk produced from the additional feed will be smaller than average. For instance, if a cow capable of much greater consumption is fed at an annual rate of 6,000 total digestible nutrients per year, 100 pounds of additional grain or its equivalent in other feed will produce 130 to 140 pounds of milk. But if the cow is fed at the rate of 7,900 total digestible nutrients annually, 100 pounds of additional grain equivalent will produce only about 50 pounds of additional milk.

TABLE 12.—*Examples of principle of diminishing returns in feeding different kinds of livestock*

ADDITIONAL MILK PRODUCED FROM EACH 100 POUNDS OF ADDITIONAL GRAIN  
AT DIFFERENT LEVELS OF GRAIN FEEDING

| Level of feeding grain           | When cows are fed unlimited quantity of good hay <sup>1</sup> | When hay fed to cows is limited to 18.5 lbs. daily per 1,000 lbs. live weight <sup>2</sup> |
|----------------------------------|---|--|
|                                  | Additional pounds of milk                                     | Additional pounds of milk  |
| 1 pound grain to 6 pounds milk   | 97  | 175  |
| 1 pound grain to 4 pounds milk   | 77  | 160  |
| 1 pound grain to 3.5 pounds milk | 59  | 130  |
| 1 pound grain to 3.0 pounds milk | 52  | 85   |
| 1 pound grain to 2.5 pounds milk | 45  | 55   |
| 1 pound grain to 2.0 pounds milk | 31  |  |

<sup>1</sup> See Agricultural Situation, February 1949 (28). In this instance, there would be a saving of from 65 to 80 pounds of hay for each additional 100 pounds of grain fed.

<sup>2</sup> Issued by Bureau of Agricultural Economics. See Agricultural Situation, February 1949 (28).



TABLE 12.—*Examples of principle of diminishing returns in feeding different kinds of livestock—Continued*

FEED CONSUMED IN PRODUCING GAIN ON HOGS OF DIFFERENT WEIGHTS<sup>3</sup>

| Change in weight                     | Gain in weight | Feed consumed in putting on specified gain <sup>4</sup> |
|--------------------------------------|----------------|---|
|                                      | <i>Pounds</i>  | <i>Feed units</i>                                       |
| 150 to 200 pounds.....               | 50             | 233   |
| 200 to 250 pounds.....               | 50             | 249   |
| 250 to 300 pounds.....               | 50             | 270   |
| 300 to 340 pounds <sup>5</sup> ..... | 40             | 236   |

TOTAL DIGESTIBLE NUTRIENTS CONSUMED IN PUTTING ON EACH 100 POUNDS OF GAIN IN FATTENING A CHOICE FEEDER STEER FROM 400 TO 1,100 POUNDS<sup>6</sup>

| Change in weight           | Gain in weight | TDN consumed per 100 pounds of gain |
|----------------------------|----------------|-------------------------------------|
|                            | <i>Pounds</i>  | <i>Pounds</i>                       |
| 400 to 500 pounds.....     | 100            | 402                                 |
| 500 to 600 pounds.....     | 100            | 435                                 |
| 600 to 700 pounds.....     | 100            | 489                                 |
| 700 to 800 pounds.....     | 100            | 560                                 |
| 800 to 900 pounds.....     | 100            | 655                                 |
| 900 to 1,000 pounds.....   | 100            | 787                                 |
| 1,000 to 1,100 pounds..... | 100            | 988                                 |

FEED CONSUMED BY RHODE ISLAND RED CHICKENS IN MAKING EACH POUND OF GAIN, FROM BABY CHICKS TO 5 POUNDS<sup>7</sup>

| Change in weight           | Gain in weight | Feed consumed per pound of gain |
|----------------------------|----------------|---------------------------------|
|                            | <i>Pounds</i>  | <i>Pounds</i>                   |
| Baby chick to 1 pound..... | 1              | 2.5                             |
| 1 to 2 pounds.....         | 1              | 3.2                             |
| 2 to 3 pounds.....         | 1              | 3.9                             |
| 3 to 4 pounds.....         | 1              | 4.7                             |
| 4 to 5 pounds.....         | 1              | 6.1                             |

<sup>3</sup> U. S. Dept. Agr. Tech. Bul. 894 (1, table 4).

<sup>4</sup> A feed unit is a pound of corn or its equivalent.

<sup>5</sup> These changes represent average gains per month. Note the reduced monthly gain at this weight level.

<sup>6</sup> From U. S. Dept. Agr. Tech. Bul. 900 (34, table 9).

<sup>7</sup> From U. S. Dept. Agr. Yearbook 1939 (54, table 3, p. 810). See also (8, 10).



The general rule is that heavier feeding pays up to the point at which the cost of the last increase in the ration plus additional costs for labor and other inputs, just equals the value of the additional milk produced. This principle thus is of considerable economic importance.<sup>7</sup> The pounds of additional milk that will be produced by 100 pounds of additional grain are given in the first part of table 12 for two situations, one in which the cows have all the hay or other good roughage they can eat and the other in which the supply of hay is limited. In the first situation, as the grain is increased less hay is eaten, so that the net increase in total feed is only about 65 pounds of grain equivalent per 100 pounds of additional grain fed. In the second situation, consumption of hay does not decrease with the 100-pound increase in the grain ration because the cows are not getting all the roughage they would eat if it were available.

The feeding of other classes of livestock is also subject to the law of diminishing returns, examples of which are given in table 12. In the case of hogs, it is shown that as the weight of the hog increases, larger quantities of feed are consumed per unit of gain but that the increase in consumption of feed is less than is generally recognized. It was found that for the gain in weight between 225 to 250 pounds, 8 percent more feed is consumed per pound of gain than is needed to bring a hog up to 225 pounds, including the feed and gain of the breeding herd, 13 percent more in increasing from 250 to 275 pounds, and 18 percent more in increasing from 275 to 300 pounds. Larger quantities of feed are consumed per additional pound of gain in weight as hogs become heavier. A similar relation is true with fattening chickens (54, 1939, p. 809). The most efficient level in fattening chickens so far as feed alone is concerned is 50 to 60 percent full feed, but because it takes much longer this would not be the most profitable practice. Diminishing returns are evident in fattening steers (fig. 5). It takes more than twice as much feed to put 100 pounds gain on a fat steer weighing 1,000 pounds as on one weighing 500 pounds.

With laying hens, evidence is lacking that output per unit of input decreases with heavier feeding (9). However, the principle applies to most classes of livestock. It pays to feed up to the point at which the cost of the last input of feed just equals the return from the additional output of product. This principle is of great importance in agriculture, and it accounts for some of the differences in feeding practices between regions.

### **Least-Cost Combination of Feeds**

In recent years, a new statistical method has been developed that permits the rapid and exact determination of the least-cost combination of feeds that will supply designated nutrients and meet other specifications. The method is called linear programming. Prices of feed ingredients vary from week to week, and it is especially important to the feed manufacturer that he use the combination of those feed ingredients that will give him the lowest cost and yet meet minimum specifications for nutrients and other characteristics such as protein, fat, and fiber content. He must also consider that changing partly or wholly from one feed ingredient to another may change the color or taste of the feed from the usual product and thus may make it less acceptable to his livestock. Also, the proposed change must be such

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<sup>7</sup> See Agricultural Situation for February 1949 (28) for application of principle.

that it will not seriously increase the cost of normal milling operations. The linear programming technique may be used to allow for a wide variety of limitations and yet give a combination of feedstuffs that will result in the lowest cost (12, 13, 15, 27, 35, 37, 55).

The problem of least-cost combination of feeds sometimes is important to the individual farmer. However, usually his feeds are of his own raising or are purchased as complete feeds or supplements. Sometimes he can substitute one feed grain for a more expensive one (tables 4 to 7). If high-protein feeds are at unusually high prices, it may pay to use less than the recommended quantity to produce maximum growth or production (12, 13). However, with ordinary variations in prices, it is doubtful whether it is worthwhile to vary from the recommended levels.

It is probably more important to vary the protein content of the hog or turkey ration with different stages of growth than to vary it with changes in the relative prices of the protein feeds and corn. At least, the protein content should be kept at the optimum rate for growth in the early stages of growth and any reduction because of high prices should be confined to the fattening stage. This is when most of the feed is consumed and the greatest saving in cost is made.

### Protein Situation

Beef, pork, lamb, mutton, poultry, eggs, and wool are made up largely of water, protein, fat, and minerals. The edible portion of a good-grade beef carcass is about 16 percent protein and 28 percent fat; a medium-grade hog carcass is about 12 percent protein and 45 percent fat; while the edible portion of a fryer is about 20 percent protein and 11 percent fat. Eggs are 12.8 percent protein and 11.5 percent fat, and milk is 3.5 percent protein and 3.5 percent fat. Thus, protein is an important constituent of the livestock products that we eat. Enormous quantities of protein of plant and animal origin are eaten by livestock to supply the protein in the meat, eggs, and milk used for food in this country. Young growing animals have a larger proportion of protein in relation to fat than have mature animals. As animals are fattened, the amount of protein does not increase as fast as does the amount of fat.

Less protein is still generally fed than is recommended in standards of nutrition, although the situation is much improved as compared with 20 or 30 years ago. High-protein byproduct feeds, such as oilseed meals, tankage and meat scrap, fishmeal, gluten meal, and brewers' and distillers' grains, are used to bring the protein content of the concentrate ration up to the desired amount. These high-protein feeds are not produced primarily for feed; ordinarily they are byproducts of some more important product. In the case of soybeans, however, the meal from a bushel of beans has been worth as much or more than the oil at least part of the time in recent years. About three-fourths of the increase from 4 to 12 million tons in high-protein feeds in the last 25 years has been in soybean meal. Twenty-five years ago high-protein feeds amounted only to 3 or 4 percent of all concentrates fed. Today more than 10 percent of all concentrates fed are high-protein feeds (table 37). The greatest increase has been for poultry and hogs. Poultry now take by far the largest quantity of high-protein feeds (more than a third), followed by dairy cattle, hogs, and beef cattle (table 38).

In the South and Southwest, cottonseed meal is sometimes cheaper than grain and is fed in these areas as a source of energy without regard to the need for protein. Also, cottonseed cake is liked by cattle and sheep growers as a supplement to low-grade pastures, as well as a part of feed-lot rations. Thus, a large tonnage of cottonseed cake and meal is fed to cattle and sheep primarily as an energy feed, probably more than would be necessary because of protein requirements alone. Cottonseed meal has always been fed largely to cattle and sheep. If it is fed in large quantities to hogs and poultry, there is danger of injury from a substance called gossypol. Nevertheless, a considerable tonnage is probably fed to hogs and poultry. Cottonseed meal is a satisfactory protein supplement for hogs if fed within limits in combination with animal-protein feeds. The writer's estimates of consumption of the high-protein feeds and the different oilmeals by kinds of livestock are shown in tables 36 and 38 to 41. *As with other feeds in this report, the total consumption figures are official estimates of the Department, but the distribution between classes of livestock are estimates of the author based upon meager factual evidence. Thus, they are subject to a wide probable error.*

The protein content of most livestock and poultry rations may be expressed as the percentage of crude protein in the concentrate ration. The percentages of protein in U. S. average concentrate rations for 7 kinds of livestock and poultry enterprises are given in table 13 for 1937 through 1955. The table reveals some increase in the percentage of protein since 1937 in most enterprises except milk cows. The average protein content of concentrate rations for different kinds of livestock is shown for recent years as follows:

| <i>Livestock</i>          | <i>Protein content (percent)</i> |
|---------------------------|----------------------------------|
| Milk cows.....            | 13.6                             |
| Cattle on feed.....       | 11.9                             |
| Laying flock.....         | 13.5                             |
| Farm chickens raised..... | 15.1                             |
| Broilers.....             | 19.4                             |
| Turkeys.....              | 18.8                             |
| Hogs.....                 | 11.6                             |

By using assumed desirable protein requirements for the different enterprises, the deficit in protein requirements may be calculated (16, 20). The quantity of protein estimated fed to milk cows and cattle on feed in this report is probably equal to or above average requirements, and it may be assumed that other cattle and sheep have a sufficient supply. Using the National Research Council standards (33), the required percentage of protein for the laying flock should be about 15 percent, chickens raised 17 percent, broilers 20 percent, turkeys 21 percent, and hogs 14 percent.

Assuming that hogs need 14 percent protein in the average ration, the deficit in protein required to balance concentrate rations was about 3.4 million tons of soybean meal in 1955-56 (table 14). If only 13 percent protein is sufficient for hogs, as some persons believe, the deficit is 2.4 million tons of soybean meal (32). In any event, the deficit for hogs appears to be larger than that for poultry. The deficit of 2.4 million tons of soybean meal would be about 40 percent of the 1955 production.



TABLE 13.—*Estimated percentage of crude protein in concentrate ration fed to different kinds of livestock, 1937-55*

| Year beginning Oct. 1 | Milk cows      | Cattle on feed | Laying flock   | Chickens raised | Broilers       | Turkeys        | Hogs           |
|-----------------------|----------------|----------------|----------------|-----------------|----------------|----------------|----------------|
|                       | <i>Percent</i> | <i>Percent</i> | <i>Percent</i> | <i>Percent</i>  | <i>Percent</i> | <i>Percent</i> | <i>Percent</i> |
| 1937-----             | 14. 4          | 10. 6          | 13. 3          | 13. 3           | 19. 2          | 15. 3          | 10. 8          |
| 1938-----             | 13. 8          | 10. 7          | 13. 2          | 13. 4           | 19. 0          | 15. 4          | 10. 8          |
| 1939-----             | 13. 7          | 10. 7          | 13. 2          | 13. 3           | 19. 8          | 15. 6          | 10. 9          |
| 1940-----             | 13. 7          | 11. 0          | 13. 0          | 13. 2           | 19. 6          | 15. 9          | 11. 1          |
| 1941-----             | 13. 6          | 11. 0          | 12. 8          | 13. 3           | 18. 8          | 15. 8          | 11. 0          |
| 1942-----             | 13. 9          | 11. 4          | 12. 8          | 13. 2           | 17. 8          | 17. 0          | 11. 4          |
| 1943-----             | 14. 1          | 11. 3          | 12. 7          | 13. 3           | 18. 4          | 17. 3          | 11. 3          |
| 1944-----             | 14. 3          | 11. 4          | 12. 8          | 13. 7           | 17. 8          | 17. 1          | 11. 1          |
| 1945-----             | 14. 0          | 11. 2          | 12. 7          | 13. 5           | 18. 2          | 16. 9          | 10. 9          |
| 1946-----             | 13. 8          | 11. 2          | 12. 8          | 13. 6           | 18. 5          | 17. 3          | 11. 0          |
| 1947-----             | 14. 1          | 11. 2          | 13. 5          | 14. 5           | 18. 8          | 18. 4          | 11. 2          |
| 1948-----             | 14. 1          | 11. 5          | 13. 4          | 14. 4           | 19. 0          | 18. 2          | 11. 2          |
| 1949-----             | 13. 7          | 11. 6          | 13. 0          | 14. 2           | 19. 1          | 18. 7          | 11. 0          |
| 1950-----             | 13. 6          | 11. 7          | 13. 2          | 14. 7           | 19. 3          | 18. 6          | 11. 4          |
| 1951-----             | 13. 7          | 11. 6          | 13. 5          | 14. 6           | 19. 2          | 18. 8          | 11. 4          |
| 1952-----             | 13. 6          | 11. 4          | 13. 6          | 14. 9           | 18. 9          | 18. 7          | 11. 8          |
| 1953-----             | 13. 6          | 11. 6          | 13. 3          | 14. 8           | 19. 0          | 18. 6          | 11. 7          |
| 1954-----             | 13. 4          | 12. 0          | 13. 7          | 15. 2           | 19. 3          | 19. 3          | 11. 6          |
| 1955-----             | 13. 7          | 12. 0          | 13. 6          | 15. 2           | 19. 8          | 18. 4          | 11. 4          |

Additional protein for hogs and poultry can be supplied by providing part of the needs for cattle and sheep through better hay and pasture and greater use of urea. This process is going on as more alfalfa hay and grass silage are fed. It is estimated that 70,000 tons of urea were fed in 1955. This quantity of urea should replace the equivalent of more than 400,000 tons of soybean meal for cattle and sheep.

TABLE 14.—*Deficiency in soybean meal, 1955-56*<sup>1</sup>

| Kind of livestock                                     | Concentrates fed  | Protein fed    |                   | Protein required |                   | Deficiency in—    |                                      |
|---|-------------------|----------------|-------------------|------------------|-------------------|-------------------|--------------------------------------|
|   |                   |                |                   |                  |                   | Protein           | Soybean meal equivalent <sup>2</sup> |
|   | <i>1,000 tons</i> | <i>Percent</i> | <i>1,000 tons</i> | <i>Percent</i>   | <i>1,000 tons</i> | <i>1,000 tons</i> | <i>1,000 tons</i>                    |
| Laying flock  | 16, 350           | 13. 5          | 2, 207            | 15. 0            | 2, 452            | 245               | -----                                |
| Chickens raised                                       | 5, 900            | 15. 1          | 891               | 17. 0            | 1, 003            | 112               | -----                                |
| Broilers  | 5, 850            | 19. 4          | 1, 135            | 20. 0            | 1, 170            | 35                | -----                                |
| Turkeys   | 3, 095            | 18. 8          | 582               | 21. 0            | 650               | 68                | -----                                |
| Hogs  | 44, 068           | 11. 6          | 5, 112            | 14. 0            | 6, 170            | 1, 058            | -----                                |
| Deficiency using 14 percent protein required for hogs |                   |                |                   |                  |                   | 1, 518            | 3, 373                               |
| Deficiency using 13 percent protein required for hogs |                   |                |                   |                  |                   | 1, 077            | 2, 393                               |

<sup>1</sup> It was assumed that dairy cattle, beef cattle, sheep, and horses and mules now get sufficient protein.

<sup>2</sup> 45-percent protein.



## Efficiency of Livestock in Producing Human Food

Except for horses and mules, livestock convert feed crops into human food. Many kinds of feed materials are converted into food. Some of these, the feed grains, for example, can be used directly as human food, but about two-thirds of the feed used by livestock is not fit for human consumption. In this category are hay, corn stover, pasture, millfeeds, and some other feeds that are converted into meat, eggs, and milk. Much of the protein and energy in the human diet is supplied by livestock products.

The various kinds of livestock in this country differ in their ability to convert feed materials into human food. To measure this difference, the different kinds of feeds fed to each kind of livestock were converted into feed units. The feed units used in producing 100 pounds of live weight, and those used in producing the product (meat, milk, and eggs) as bought by the consumer were calculated. In table 15, feed is shown in three ways: (1) All feed, including pasture; (2) all feed, excluding pasture; and (3) grain and concentrates only. The second category is shown because it represents harvested feeds upon which much labor is applied. Cattle and sheep get a high percentage of their feed from pasture. When pasture is disregarded, the feed used to produce a pound of meat or eggs as bought at retail does not differ greatly for the different kinds of livestock. In considering the data for sheep and lambs, it should be remembered that for each 100 pounds live weight produced, about 18 pounds of wool is produced. Based on market values, it could probably be said that about 30 percent of the feed shown in the table goes into wool and 70 percent into food.

TABLE 15.—*Feed units consumed in producing livestock and livestock products, United States average, 1953-55*<sup>1</sup>

CONSUMED IN PRODUCING 100 POUNDS NET LIVE WEIGHT

| Item                                 | All feed including pasture | All feed excluding pasture | Grain and other concentrates |
|--------------------------------------|----------------------------|----------------------------|------------------------------|
|                                      | <i>Feed units</i>          | <i>Feed units</i>          | <i>Feed units</i>            |
| Hogs-----                            | 514                        | 490                        | 490                          |
| Cattle and calves <sup>2</sup> ----- | 893                        | 357                        | 152                          |
| Sheep and lambs <sup>3</sup> -----   | 1,432                      | 350                        | 109                          |
| Chickens, farm-raised-----           | 581                        | 557                        | 557                          |
| Commercial broilers-----             | 336                        | 336                        | 336                          |
| Turkeys-----                         | 549                        | 524                        | 524                          |

<sup>1</sup> A feed unit is a pound of corn or its equivalent in other feed.

<sup>2</sup> Feed consumed by all cattle, except milk cows, divided by the net live-weight production of cattle and calves.

<sup>3</sup> Feed consumed by all sheep and lambs divided by the net live-weight production. For each 100 pounds live-weight production, about 18 pounds of wool was produced.

TABLE 15.—*Feed units consumed in producing livestock and livestock products, United States average, 1953-55—Continued*

CONSUMED IN PRODUCING 100 POUNDS MEAT AND FAT, BONE INCLUDED

| Item                       | All feed including pasture | All feed excluding pasture | Grain and other concentrates |
|----------------------------|----------------------------|----------------------------|------------------------------|
|                            | <i>Feed units</i>          | <i>Feed units</i>          | <i>Feed units</i>            |
| Pork and lard.....         | 725                        | 690                        | 690                          |
| Beef and veal.....         | 1, 827                     | 724                        | 303                          |
| Lamb and mutton.....       | 2, 967                     | 731                        | 226                          |
| Chickens, farm-raised..... | 818                        | 784                        | 784                          |
| Commercial broilers.....   | 496                        | 496                        | 496                          |
| Turkeys.....               | 740                        | 706                        | 706                          |

CONSUMED IN PRODUCING 100 POUNDS MEAT AND FAT, BONE EXCLUDED

|                            |        |        |        |
|----------------------------|--------|--------|--------|
| Pork and lard.....         | 817    | 778    | 778    |
| Beef and veal.....         | 2, 054 | 815    | 342    |
| Lamb and mutton.....       | 3, 869 | 953    | 295    |
| Chickens, farm-raised..... | 1, 066 | 1, 023 | 1, 023 |
| Commercial broilers.....   | 631    | 631    | 631    |
| Turkeys.....               | 895    | 855    | 855    |

CONSUMED IN PRODUCING 100 POUNDS OF MILK AND EGGS

|                            |     |     |     |
|----------------------------|-----|-----|-----|
| Milk <sup>4</sup> .....    | 105 | 77  | 32  |
| Eggs, including shell..... | 448 | 440 | 440 |
| Eggs, excluding shell..... | 503 | 494 | 494 |

<sup>4</sup> Feed for milk cows divided by milk produced. Feed for young stock not included.

The feed units used to produce energy and protein are given in table 16. Thus, in production of energy, hogs are more efficient than other kinds of livestock and in production of protein, milk cows are first. These are overall figures for each class of livestock. They indicate, in a general way only, where emphasis should be put when it is necessary to convert unusually large quantities of grain into livestock products, as was done in World War II. Each kind of livestock can use to best advantage some of the basic resources of land, labor, and capital. Cattle and sheep use millions of acres of pasture and millions of tons of forage that would not otherwise be converted into food.

The question often is asked, "How much meat, milk, and eggs does one get from 100 pounds of corn or its equivalent in other feed fed to different kinds of livestock?" Table 17 gives this information for different commercial livestock enterprises. These rates are thought to be about average for enterprises that are the main or an important part of the farm business. Rates on individual farms would vary greatly from these, depending on type of production, quality of livestock, management, and so on.

TABLE 16.—*Feed units consumed in producing energy and protein in different livestock products, United States average, 1953-55*<sup>1</sup>

CONSUMED PER 100,000 CALORIES OF FOOD ENERGY PRODUCED IN LIVESTOCK PRODUCTS

| Item                               | All feed including pasture | All feed excluding pasture | Grain and concentrates only |
|------------------------------------|----------------------------|----------------------------|-----------------------------|
|                                    | <i>Feed units</i>          | <i>Feed units</i>          | <i>Feed units</i>           |
| Pork and lard.....                 | 324                        | 309                        | 309                         |
| Beef and veal.....                 | 1, 452                     | 576                        | 241                         |
| Lamb and mutton <sup>2</sup> ..... | 2, 370                     | 584                        | 181                         |
| Chickens, farm-raised.....         | 1, 212                     | 1, 162                     | 1, 162                      |
| Commercial broilers.....           | 781                        | 781                        | 781                         |
| Turkeys.....                       | 748                        | 714                        | 714                         |
| Milk.....                          | 355                        | 261                        | 108                         |
| Eggs.....                          | 703                        | 691                        | 691                         |

CONSUMED PER POUND OF PROTEIN PRODUCED IN LIVESTOCK PRODUCTS

|                                    |     |    |    |
|------------------------------------|-----|----|----|
| Pork and lard.....                 | 95  | 90 | 90 |
| Beef and veal.....                 | 129 | 51 | 21 |
| Lamb and mutton <sup>2</sup> ..... | 236 | 58 | 18 |
| Chickens, farm-raised.....         | 54  | 51 | 51 |
| Commercial broilers.....           | 51  | 33 | 33 |
| Turkeys.....                       | 44  | 42 | 42 |
| Milk.....                          | 32  | 23 | 10 |
| Eggs.....                          | 39  | 39 | 39 |

<sup>1</sup> A feed unit is a pound of corn or its equivalent in other feed.

<sup>2</sup> All of the feed for sheep and lambs was charged against food, although probably at least half the feed is used to produce wool.

TABLE 17.—*Estimated livestock enterprises from 100 pounds of corn equivalent (feed units) on commercial farms*<sup>1</sup>

| Average livestock enterprise                                | Food measured in terms of—   |   |   |           |                |              | Food supply <sup>2</sup> |
|---|--|---|---|-----------|----------------|--------------|--------------------------|
|   | Farm level   | Retail level (bone and shell included)                | Consumer level (bone and shell removed)               | Calo-ries | Protein        | Days         |                          |
| Corn Belt farm raising hogs.                                | 23 pounds of live weight.  | 15.7 pounds of pork and lard.                         | 13.6 pounds of pork and lard.                         | 35.7      | Pounds<br>1.26 | Days<br>11.0 |                          |
| Corn Belt cattle-feeding enterprise.                        | 11 pounds of live weight.  | 8.4 pounds of beef and fat.                           | 7.2 pounds of beef and fat.                           | 14.4      | .7             | 5.1          |                          |
| Lamb-feeding enterprise.                                    | 11.5 pounds of live weight gain.   | 6.4 pounds of meat and fat.                           | 5.0 pounds of meat and fat.                           | 14.0      | .6             | 4.6          |                          |
| Commercial dairy farm selling whole milk.                   | 105 pounds of milk.  | 103 pounds of milk.                                   | 103 pounds of milk.                                   | 31.0      | 3.4            | 17.7         |                          |
| Dairy enterprise, butterfat sold and skim milk fed to hogs. | 88 pounds of milk, or 3.5 pounds of butterfat, and 3.3 pounds of gain on hogs. | 4.2 pounds of butter and 2.4 pounds of pork and lard. | 4.1 pounds of butter and 2.1 pounds of pork and lard. | 14.3      | .2             | ---          |                          |
| Commercial laying flock of leghorns.                        | 17 dozen eggs.   | 16.5 dozen, or 24.8 pounds of eggs.                   | 22.0 pounds of eggs excluding shell.                  | 14.3      | 2.3            | 11.8         |                          |
| Commercial broiler production.                              | 31 pounds of live weight.  | 21 pounds of dressed weight.                          | 16.4 pounds of meat.                                  | 13.3      | 3.3            | 13.5         |                          |
| Turkey production.  | 20 pounds of live weight.  | 14.6 pounds of dressed weight.                        | 12 pounds of meat.                                    | 14.6      | 2.4            | 10.8         |                          |

<sup>1</sup> Above-average commercial farms.

<sup>2</sup> The average person (including children) requires about 2,600 calories of energy and 0.15 pound of protein per day (54, 1939, p. 320). It was assumed that 2,600 calories and 0.15 pound of protein are of equal importance in our food supply. The calories in column 5 were divided by 2,600 and the pounds of protein in

column 6 were divided by 0.15 and the two results averaged, thus giving the number of days of food (energy and protein only) for an average person. It should be pointed out that 100 pounds of corn eaten as commel will furnish enough energy and protein combined for the average person for about 55 days.



In production of pounds of edible product received by consumers, the various enterprises rank thus: Production of whole milk, production of eggs, production of broilers, hog raising, production of turkeys, beef fattening, and butterfat dairying where the skim milk is fed to hogs. On the basis of food energy produced, hogs are first, production of whole milk is second, butterfat dairying is third, and the poultry enterprises are still lower. In production of protein, whole milk leads; the poultry enterprises are second; and hogs are third. Food requirements of average persons, including children, are about 2,600 calories per day and 0.15 pound of protein. In the market place, 2,600 calories of energy in bread or potatoes at current prices cost approximately the same as 0.15 pound of protein in meat or milk. Then, in this sense, 2,600 calories may be considered as important as 0.15 pound of protein in the national diet. If the figures for calories and protein in the table are weighted in this way, it will be found that production of whole milk gives much more total food than other kinds of livestock from a given input of feed. Broilers and laying flocks are about equal. Butterfat dairying ranks low when the skim milk is fed to hogs or poultry. If the skim milk is used for food, it ranks high, as half the energy and most of the protein contained in milk is in the skim milk. Poultry enterprises rank low in production of energy but high in protein per unit of feed. Turkeys and hogs are about equal, although one is high in protein and the other in calories.

Cattle feeding ranks higher in efficiency of food production than is generally thought. The reason is that in the fattening process the edible product and energy value are increased more than is the gain in weight (34) (tables 8, 13). A choice yearling feeder steer fattened to a slaughter grade of Choice increases 42 percent in live weight but 59 percent in edible product and 119 percent in calories.<sup>8</sup> The same animal kept on feed to a slaughter grade of Prime increases 69 percent in live weight, 106 percent in edible product, and 233 percent in calories. The average cattle-feeding enterprise ranks in production of energy along with the poultry enterprises.

## Feed Conservation

It is necessary at times to conserve grain because of war or because of a short supply owing to a poor crop. The kinds of livestock and feeding practices that return the greatest amount of food from a bushel of grain are then of paramount importance.

Among the ways to save grain in production of hogs are:

(1) Keep death losses in young pigs at a minimum by using pig rails and sloping floors in farrowing houses, and by providing clean quarters for farrowing and personal attention at farrowing time. A sow uses about 2,000 pounds of feed a year. If 16 pigs in 2 litters are saved, the feed per pig is 125 pounds, but if only 6 pigs are saved, the feed already used amounts to 330 pounds per pig at weaning time.

(2) Keep the herd healthy by practicing sanitation, providing clean water, and vaccinating for cholera.

(3) Provide feeding floors and self feeders, which tend to prevent waste.

<sup>8</sup> Official grades of fat cattle were changed in 1951 so that the former grade of Good is now Choice and the former grades of Choice and Prime are now combined in Prime. The latest classification is used here.

(4) Keep hogs on pasture.

(5) Balance the ration with protein feeds and provide minerals. Young pigs need a ration with a larger percentage of protein than do older hogs.

(6) Feed hogs to desirable market weights. Hogs that increase in weight from 225 to 250 pounds, for example, consume 8 percent more feed per pound of gain than they do up to 225 pounds. The return per dollar of feed cost, however, depends on the prices of corn and hogs.

There is even more leeway for saving feed in *cattle feeding* than in hog production. Cattle can substitute hay, silage, and pasture for grain and still make good beef. A choice yearling feeder steer usually requires 40 to 50 bushels of corn to produce a Prime grade carcass with a gain in weight of 450 pounds.<sup>9</sup> But with 25 bushels of corn and plenty of hay and silage, the same animal will put on 300 pounds of gain and the carcass will grade "Choice." A Prime carcass makes cuts of beef that usually sell at premium prices, but in times of feed scarcity, it is wasteful of feed. Whether feeding to the Prime grade is profitable depends upon the prices of both feed and cattle. Stock cattle that are not to be marketed can be carried on pasture, hay, corn fodder, or silage, with no grain.

Grain requirements for *dairy cattle* may be kept down by feeding roughage of good quality. Heifers more than a year old and dry cows can do with little or no grain. Keeping records of milk production permits the low producers to be culled out and replaced with better cows. Table 18 shows that 100 pounds of milk may be produced with about 85 feed units with cows of a given level of producing ability. When this level is increased 50 percent by replacement with better cows, it takes only about 70 feed units to produce 100 pounds of milk. Keeping records also permits one to feed grain at the rate that is most profitable. This can be determined from the *additional* milk produced from an additional 100 pounds of grain (28). If cows have free access to hay and the quantity of grain is increased, they eat less hay. For each 100-pound increase in grain, the decrease in hay is from 65 to 80 pounds. The amount of additional milk per 100 pounds of additional grain is only about 30 pounds when fed to cows that are on a heavy grain ration, that is, a ration of 1 pound of grain to 2 pounds of milk (table 12). But 97 pounds of additional milk per 100 pounds of additional grain are produced when cows are fed a light grain ration, or 1 pound of grain to 6 pounds of milk.

The situation just discussed applies to herds that are fed unlimited quantities of hay. When the quantity of hay fed is limited, the additional milk produced for an additional 100 pounds of grain fed is even more striking. At the 1:3 ratio (1 pound of grain to 3 pounds of milk) an additional 100 pounds of grain produced about 130 pounds of additional milk; at the 1:2 ratio, only 55 pounds of additional milk were produced. At the other end of the intensity of feeding scale (1:4 ratio), 175 pounds of additional milk were produced for each 100 pounds of additional grain or its equivalent.

Thus, as the intensity of grain feeding is increased, less and less milk is produced for additional grain. The point at which it is most profitable to feed depends upon the relative prices of milk, grain, and hay. High-producing herds probably tend to be underfed and low-

<sup>9</sup> See footnote 8, page 60.

producing herds to be overfed grain from the standpoint of most profit. It is even more certain that individual cows of high-basic-producing ability in many herds are underfed and that many cows of relatively low-basic-producing ability are overfed. Thus, individual records are the key to the situation.

TABLE 18.—*Relation of milk production to feed required for three weights of cows, each at two levels of productivity, all cows fed at the same level*<sup>1</sup>

| Item                                | Cows weighing— |               |               |               |               |               |
|-------------------------------------|----------------|---------------|---------------|---------------|---------------|---------------|
|                                     | 900 pounds     |               | 1,100 pounds  |               | 1,300 pounds  |               |
|                                     | Level 1        | Level 2       | Level 1       | Level 2       | Level 1       | Level 2       |
|                                     | <i>Pounds</i>  | <i>Pounds</i> | <i>Pounds</i> | <i>Pounds</i> | <i>Pounds</i> | <i>Pounds</i> |
| Milk production per head....        | 6, 000         | 9, 000        | 7, 000        | 10, 500       | 8, 000        | 12, 000       |
| Digestible nutrients (TDN):         |                |               |               |               |               |               |
| Required for maintenance.....       | 2, 620         | 2, 620        | 3, 140        | 3, 140        | 3, 700        | 3, 700        |
| Available for milk.....             | 2, 040         | 3, 060        | 2, 380        | 3, 570        | 2, 720        | 4, 080        |
| Total.....                          | 4, 660         | 5, 680        | 5, 520        | 6, 710        | 6, 420        | 7, 780        |
| Required for 100 pounds milk.....   | 78             | 63            | 79            | 64            | 80            | 65            |
| Feed units per 100 pounds milk..... | 84             | 68            | 85            | 69            | 86            | 70            |

<sup>1</sup> Based on the relation of milk produced to feed fed for the cows that were fed at 100 percent of the Haecker Standard as reported in U. S. Dept. Agr. Tech. Bul. 815 (25). These cows were in agricultural experiment station herds and the milk produced averaged about 90 percent of their expected production based on previous performance. Increasing milk-producing ability by 50 percent decreases the feed required per pound of milk by about 20 percent. The average milk cow in the United States produces about 5,800 pounds of milk and uses about 105 feed units per 100 pounds of milk. Raising the average productive capacity means lower feed requirements per pound of milk because maintenance "overhead" is spread over a larger production of milk.

The practices that save feed in *poultry* production are those generally recommended for economical production. They include the culling out of low-producing hens, the use of alfalfa hay, good pasturage and a balanced ration, and the many practices that help to reduce losses from accidents, disease, and parasites (54, 1939, p. 819).

In any discussion of conservation of feed, the place of livestock in our national economy is of interest. High per capita consumption of meat is one characteristic of a high standard of living. About 12 to 15 pounds of grain must be fed to livestock to produce enough meat and other livestock products to support a man for 1 day, whereas 2 or 3 pounds of grain (corn, wheat, rice, soybeans, and so on) made into flour and bread will support a man for a day. Thus, a given quantity of grain will support several times the number of people if eaten directly than it will when fed to livestock and the meat from the livestock eaten. This accounts partly for the scarcity of livestock in some heavily populated countries.



From a physical standpoint, livestock do not convert grain into human food efficiently but they do convert into food the grass and other roughage that is unfit for humans. Much of this roughage is produced on land as part of a cropping system to prevent soil erosion and to maintain the productivity of the soil.

Less than half of the total feed nutrients consumed by livestock in the United States could be used for human food. The rangelands of the West produce large numbers of livestock, but these lands would be of little value in direct production of human food. Also, in a sense, livestock are a reserve of food. They tend to smooth out the food supply over years of both poor and good crops. If population pressure becomes too great, this Nation could eat most of its livestock and live on wheat, rice, corn, soybeans and fish, as does much of the rest of the world. However, a diet of this kind would represent a much lower standard of living than that to which we are accustomed.

Livestock also furnish animal protein for the human diet. Some animal protein appears to be needed in the diets of both humans and some kinds of livestock. Meat, milk, and eggs also supply a number of vitamins that are necessary for full efficiency of the human race. They give a variety to the diet and thus contribute to a high level of living. In the late war, foods that took little space were wanted. Dried milk, dried eggs, cheese, and lard were livestock products that met this demand.



TABLE 19.—*Calculation of animal units, for year beginning October 1, 1957*<sup>1</sup>

| Livestock                      | Animal units   |                 |         |                    |        |                              |         |
|--------------------------------|----------------|-----------------|---------|--------------------|--------|------------------------------|---------|
|                                | Assumed number | Grain-consuming |         | Roughage-consuming |        | Grain-and-roughage consuming |         |
|                                |                | Factor          | Number  | Factor             | Number | Factor                       | Number  |
| On farms January 1, 1958:      |                |                 |         |                    |        |                              |         |
| Cattle:                        | Thousands      |                 |         | Thousands          |        | Thousands                    |         |
| Milk cows                      | 22,900         | 1.02            | 23,358  | 0.99               | 22,671 | 1.00                         | 22,900  |
| Milk heifers and heifer calves | 11,300         | .344            | 3,887   | .782               | 8,837  | .63                          | 7,119   |
| Beef cows                      | 24,400         | .167            | 4,075   | .975               | 23,790 | .76                          | 18,544  |
| Cattle on feed                 | 6,000          | 2.00            | 12,000  | .483               | 2,898  | .86                          | 5,160   |
| Other cattle                   | 28,400         | .154            | 4,374   | .844               | 23,970 | .61                          | 17,324  |
| Stock sheep                    | 26,200         | .022            | 576     | .20                | 5,240  | .15                          | 3,930   |
| Sheep and lambs on feed        | 4,300          | .12             | 516     | .058               | 249    | .074                         | 318     |
| Horses and mules:              |                |                 |         |                    |        |                              |         |
| 2 years old and over           | 3,050          | 1.34            | 4,087   | .737               | 2,248  | .88                          | 2,684   |
| Colts                          | 188            | .15             | 28      | 1.0                | 188    | .6                           | 113     |
| Hens and pullets               | 340,000        | .0577           | 19,618  | .0012              | 408    | .0154                        | 5,236   |
| Hogs                           | 54,500         |                 |         | .01                | 545    |                              |         |
| Raised or fed during 1958:     |                |                 |         |                    |        |                              |         |
| Commercial broilers            | 1,450,000      | .008            | 11,600  |                    |        | .002                         | 2,900   |
| Chickens                       | 450,000        | .018            | 8,100   |                    |        | .0043                        | 1,935   |
| Turkeys, large                 | 65,000         | .07             | 4,550   |                    | 156    | .02                          | 1,300   |
| Turkeys, small                 | 14,000         | .03             | 420     | .0024              | 34     | .02                          | 280     |
| Goats clipped                  | 3,300          |                 |         | .2                 | 660    | .15                          | 495     |
| Hogs fed in year               | 2 92,100       | .712            | 65,575  |                    |        | .195                         | 17,960  |
| Total                          |                |                 | 162,764 |                    | 91,894 |                              | 108,198 |

<sup>1</sup> Factors in this table should be applied to numbers of livestock at the national level only.

<sup>2</sup> Calculated as follows:

Spring pigs 1957 (35 percent of 52,000)

Fall pigs 1957 (100 percent of 37,500)

Spring pigs 1958 (65 percent of 56,000)

Hogs fed in year beginning Oct. 1, 1957

18,200

37,500

36,400

92,100

## ESTIMATING UNITED STATES FEED CONSUMPTION IN ADVANCE

It is sometimes desirable to know a year or even several years ahead how large a tonnage of feed will be required for the livestock estimated to be on the farms of the Nation. One method is to calculate the animal units from the estimated number of livestock, as shown in table 19 for 1957-58. Then multiply the animal units by the factor "concentrates fed per animal unit," which appears to be reasonable if recent years are used as a guide (table 20). The numbers of livestock in table 19 are the numbers assumed to be on farms January 1, 1958, or to be raised in 1958. They add to 162.8 million grain-consuming animal units and 91.9 million roughage-consuming animal units. Concentrates fed per animal unit for 1953-56 average 0.798 ton. Multiply 162.8 by 0.795 to get 130 million tons of concentrates for 1957-58. This quantity includes corn in silage and skim milk fed as a liquid as concentrates. It is the same as the concentrates fed reported in table 1 of Grain and Feed Statistics (44) and at regular times during the year in the Feed Situation (43).

TABLE 20.—All concentrates fed, and concentrates fed per animal unit, 1946-56

| Year beginning<br>October 1 | All con-<br>centrates<br>fed <sup>1</sup> | Corn<br>in<br>silage <sup>1</sup> | Skim<br>milk<br>fed <sup>2</sup> | Total <sup>1</sup>      | Animal<br>units grain-<br>consuming<br>livestock <sup>3</sup> | Concen-<br>trates fed<br>per animal<br>unit |
|-----------------------------|---|-----------------------------------|----------------------------------|-------------------------|---|---|
|                             | <i>Million<br/>tons</i>                   | <i>Million<br/>tons</i>           | <i>Million<br/>tons</i>          | <i>Million<br/>tons</i> | <i>Millions</i>   | <i>Tons</i>                                 |
| 1946.....                   | 116.0                                     | 5.2                               | 1.3                              | 122.5                   | 159.6   | 0.768                                       |
| 1947.....                   | 104.5                                     | 4.6                               | 1.3                              | 110.4                   | 153.1   | .721  |
| 1948.....                   | 113.2                                     | 5.4                               | 1.3                              | 119.9                   | 158.6   | .756  |
| 1949.....                   | 119.3                                     | 5.7                               | 1.3                              | 126.3                   | 163.8   | .771  |
| 1950.....                   | 123.1                                     | 5.8                               | 1.3                              | 130.2                   | 168.1   | .775  |
| 1951.....                   | 125.4                                     | 5.6                               | 1.2                              | 132.2                   | 167.3   | .790  |
| 1952.....                   | 114.0                                     | 6.7                               | 1.2                              | 121.9                   | 158.8   | .768  |
| 1953.....                   | 117.3                                     | 7.3                               | 1.2                              | 125.8                   | 156.7   | .803  |
| 1954.....                   | 116.9                                     | 8.3                               | 1.2                              | 126.4                   | 161.5   | .783  |
| 1955.....                   | 123.0                                     | 7.5                               | 1.1                              | 131.6                   | 165.6   | .795  |
| 1956.....                   | 123.2                                     | 8.2                               | 1.1                              | 132.5                   | 163.0   | .813  |

<sup>1</sup> See Grain and Feed Statistics, AMS, table 1 (44), also footnote 1, table 1 of this report.

<sup>2</sup> See table 24.

<sup>3</sup> See table 30.

A similar calculation as to hay to be fed in 1957-58 may be made by using the roughage-consuming units in table 19 and the hay fed per unit in table 21. The 91.9 million roughage-consuming units at 1.13 tons per unit would consume 104 million tons of hay in 1957-58.

An additional method of estimating feed consumption is to multiply the number of each kind of livestock by the estimated quantity per head. The per head rates are estimated by looking at rates for recent years shown in several tables in this report or using those in table 11. This gives about the same total quantity of concentrates as the previous method (table 22).

If it is desired to calculate the feed required for an assumed *production* of livestock and livestock products, the feed per unit of

production as given in table 11 can be used for the kinds of production specified and the per head figures for other items.

Whatever method is used, the calculation will need to be repeated as time passes, as it becomes evident that the estimates or assumptions as to livestock numbers, production, or rates of feeding will differ from the original figures used. Normally, the prospective situation can be appraised a year ahead with a fair degree of reliability.

TABLE 21.—*Hay fed per roughage-consuming animal unit, 1946-56*

| Year beginning Oct. 1 | Hay fed in year <sup>1</sup> | Animal units of roughage-consuming livestock on farms <sup>2</sup> | Hay fed per unit |
|-----------------------|------------------------------|--|------------------|
|                       | <i>Million tons</i>          | <i>Millions</i>  | <i>Tons</i>      |
| 1946-----             | 104.1                        | 88.1   | 1.18             |
| 1947-----             | 101.6                        | 84.0   | 1.21             |
| 1948-----             | 96.3                         | 82.1   | 1.17             |
| 1949-----             | 94.4                         | 82.4   | 1.15             |
| 1950-----             | 103.0                        | 85.6   | 1.20             |
| 1951-----             | 109.6                        | 90.2   | 1.21             |
| 1952-----             | 106.6                        | 94.6   | 1.13             |
| 1953-----             | 107.8                        | 95.7   | 1.13             |
| 1954-----             | 108.2                        | 96.2   | 1.12             |
| 1955-----             | 111.5                        | 96.0   | 1.16             |
| 1956-----             | 107.5                        | 94.0   | 1.14             |

<sup>1</sup> See table 2.

<sup>2</sup> See table 30.

TABLE 22.—*Calculation of feed required in 1957-58*

| Item   | Number of livestock | Rate per head | Concentrates required |
|--|---------------------|---------------|-----------------------|
|  | <i>Million</i>      | <i>Pounds</i> | <i>1,000 tons</i>     |
| Milk cows <sup>1</sup> -----                         | 22.9                | 1,650         | 18,892                |
| Milk heifers <sup>1</sup> -----                      | 11.3                | 520           | 2,938                 |
| Cattle on feed <sup>1</sup> -----                    | 6.0                 | 3,400         | 10,200                |
| Other cattle <sup>1</sup> -----                      | 52.8                | 200           | 5,280                 |
| All sheep <sup>1</sup> -----                         | 30.5                | 50            | 762                   |
| Horses and mules 2 years and over <sup>1</sup> ----- | 3.0                 | 1,300         | 1,950                 |
| Colts <sup>1</sup> -----                             | .2                  | 200           | 20                    |
| Hens and pullets <sup>1</sup> -----                  | 340.0               | 90            | 15,300                |
| Chickens raised <sup>2</sup> -----                   | 450.0               | 25            | 5,625                 |
| Broilers raised <sup>2</sup> -----                   | 1,450.0             | 9             | 6,525                 |
| Turkeys raised <sup>2</sup> -----                    | 79.0                | 80            | 3,160                 |
| Hogs <sup>3</sup> -----                              | 92.0                | 4968          | 44,528                |
| City livestock-----                                  |                     |               | 5,000                 |
| Corn in silage (not included in above rates)-----    |                     |               | 8,000                 |
| Skim milk (dry equivalent)-----                      |                     |               | 1,200                 |
| Total-----   |                     |               | 129,380               |

<sup>1</sup> Assumed as of January 1, 1958.

<sup>2</sup> Assumed raised in 1958.

<sup>3</sup> Fed in year beginning October 1, 1957.

<sup>4</sup> Obtained by dividing quantity of feed fed in recent years in table 61 by the number of hogs fed. See footnote 1, table 19, for calculation of number fed.

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# ADDITIONAL TABLES

TABLE 23.—Consumption of commercial high-protein feeds, millfeeds, and other byproduct feeds, 1926-56 <sup>1</sup>

| Year beginning Oct. 1 | Oilseed meals   |               |               |               |               | Animal proteins |                                    |               | Grain proteins                              |               |                               | Millfeeds                                     |                                     |               | Miscellaneous feeds |  | Total com-<br>merci-<br>al byprod-<br>uct<br>feeds <sup>4</sup> |                 |
|-----------------------|-----------------|---------------|---------------|---------------|---------------|-----------------|------------------------------------|---------------|---|---------------|-------------------------------|---|-------------------------------------|---------------|---------------------|--|---|-----------------|
|                       | Cotton-<br>seed | Soy-<br>bean  | Lin-<br>seed  | Peanut        | Copra         | Total           | Tank-<br>age and<br>meat<br>scraps | Fish-<br>meal | Dried<br>milk<br>prod-<br>ucts <sup>2</sup> | Total         | Gluten<br>feed<br>and<br>meal | Brew-<br>ers' <sup>3</sup><br>dried<br>grains | Dis-<br>tillers'<br>dried<br>grains | Wheat         | Rice                | Dried<br>and mo-<br>lasses<br>beet<br>pulp |   | Alfalfa<br>meal |
|                       | 1,000<br>tons   | 1,000<br>tons | 1,000<br>tons | 1,000<br>tons | 1,000<br>tons | 1,000<br>tons   | 1,000<br>tons                      | 1,000<br>tons | 1,000<br>tons                               | 1,000<br>tons | 1,000<br>tons                 | 1,000<br>tons                                 | 1,000<br>tons                       | 1,000<br>tons | 1,000<br>tons       | 1,000<br>tons                              | 1,000<br>tons   | 1,000<br>tons   |
| 1926                  | 2,148           | 32            | 426           | 10            | 87            | 2,703           | 640                                | 100           | 65  | 805           | 657                           | 8   | 86                                  | 4,877         | 93                  | 183  | 250   | 2,000           |
| 1927                  | 1,587           | 61            | 493           | 22            | 95            | 2,580           | 655                                | 113           | 80  | 807           | 707                           | 8   | 79                                  | 5,020         | 100                 | 183  | 374   | 2,000           |
| 1928                  | 1,922           | 91            | 439           | 18            | 110           | 2,580           | 630                                | 148           | 90  | 868           | 675                           | 7   | 93                                  | 5,079         | 99                  | 165  | 351   | 2,000           |
| 1929                  | 2,015           | 114           | 368           | 35            | 110           | 2,642           | 620                                | 151           | 105   | 876           | 628                           | 7   | 90                                  | 5,111         | 88                  | 211  | 375   | 2,000           |
| 1930                  | 1,821           | 123           | 334           | 18            | 96            | 2,392           | 625                                | 121           | 105   | 851           | 505                           | 6   | 79                                  | 4,946         | 87                  | 285  | 248   | 1,399           |
| 1931                  | 1,740           | 133           | 204           | 14            | 75            | 2,166           | 600                                | 107           | 110   | 817           | 539                           | 5   | 71                                  | 4,370         | 79                  | 193  | 178   | 2,000           |
| 1932                  | 1,680           | 113           | 202           | 17            | 95            | 2,107           | 635                                | 130           | 115   | 880           | 553                           | 18  | 59                                  | 4,368         | 97                  | 262  | 194   | 2,000           |
| 1933                  | 1,700           | 99            | 142           | 11            | 117           | 2,069           | 635                                | 170           | 120   | 925           | 608                           | 70  | 110                                 | 4,267         | 83                  | 282  | 234   | 2,000           |
| 1934                  | 1,524           | 267           | 202           | 47            | 112           | 2,152           | 560                                | 186           | 125   | 871           | 474                           | 84  | 160                                 | 4,413         | 89                  | 249  | 205   | 2,000           |
| 1935                  | 1,718           | 614           | 264           | 48            | 128           | 2,772           | 642                                | 236           | 125   | 1,093         | 583                           | 97  | 244                                 | 4,739         | 88                  | 228  | 284   | 2,000           |
| 1936                  | 2,099           | 532           | 273           | 67            | 137           | 3,108           | 634                                | 274           | 135   | 1,043         | 547                           | 114   | 231                                 | 4,670         | 108                 | 200  | 380   | 2,000           |
| 1937                  | 2,333           | 719           | 177           | 50            | 118           | 3,397           | 608                                | 221           | 140   | 1,969         | 569                           | 102   | 149                                 | 4,748         | 124                 | 246  | 370   | 2,000           |
| 1938                  | 2,013           | 1,020         | 203           | 75            | 129           | 3,440           | 667                                | 246           | 135   | 1,048         | 618                           | 104   | 149                                 | 4,762         | 124                 | 339  | 410   | 2,000           |
| 1939                  | 1,762           | 1,276         | 394           | 38            | 179           | 3,645           | 728                                | 238           | 155   | 1,121         | 642                           | 100   | 163                                 | 4,641         | 120                 | 286  | 440   | 2,000           |
| 1940                  | 1,862           | 1,491         | 740           | 137           | 175           | 4,405           | 802                                | 263           | 150   | 1,215         | 798                           | 116   | 206                                 | 4,762         | 125                 | 311  | 470   | 2,000           |
| 1941                  | 1,821           | 1,785         | 891           | 71            | 171           | 4,639           | 835                                | 207           | 130   | 1,172         | 1,029                         | 174   | 345                                 | 4,533         | 124                 | 294  | 580   | 2,000           |
| 1942                  | 2,078           | 3,074         | 794           | 109           | 34            | 6,089           | 877                                | 202           | 95  | 1,174         | 992                           | 230   | 356                                 | 4,739         | 145                 | 294  | 690   | 1,600           |
| 1943                  | 1,790           | 3,323         | 908           | 111           | 33            | 6,255           | 975                                | 202           | 105   | 1,282         | 900                           | 231   | 444                                 | 4,963         | 139                 | 154  | 734   | 1,600           |
| 1944                  | 1,362           | 3,627         | 459           | 102           | 42            | 6,212           | 792                                | 228           | 105   | 1,125         | 918                           | 217   | 634                                 | 5,488         | 150                 | 175  | 922   | 1,600           |
| 1945                  | 1,433           | 3,655         | 563           | 90            | 69            | 5,810           | 745                                | 213           | 100   | 1,058         | 856                           | 213   | 326                                 | 4,896         | 155                 | 218  | 1,192   | 1,700           |
| 1946                  | 1,434           | 3,745         | 370           | 98            | 190           | 5,897           | 820                                | 202           | 120   | 1,062         | 1,097                         | 229   | 410                                 | 6,098         | 166                 | 285  | 1,040   | 2,000           |
| 1947                  | 1,953           | 3,383         | 606           | 122           | 177           | 6,241           | 843                                | 236           | 90  | 1,149         | 853                           | 228   | 353                                 | 5,480         | 178                 | 999  | 999   | 2,000           |
| 1948                  | 2,271           | 4,158         | 620           | 96            | 171           | 7,316           | 854                                | 288           | 110   | 1,252         | 866                           | 233   | 334                                 | 4,917         | 190                 | 332  | 1,122   | 2,300           |
| 1949                  | 2,382           | 4,517         | 670           | 94            | 204           | 7,867           | 842                                | 324           | 115   | 1,281         | 916                           | 233   | 352                                 | 4,754         | 214                 | 352  | 1,094   | 2,550           |
| 1950                  | 1,853           | 5,718         | 732           | 130           | 226           | 8,659           | 882                                | 332           | 100   | 1,314         | 1,066                         | 241   | 642                                 | 4,818         | 187                 | 443  | 1,218   | 2,400           |
| 1951                  | 2,650           | 5,640         | 520           | 99            | 221           | 9,130           | 946                                | 438           | 110   | 1,494         | 911                           | 223   | 339                                 | 4,974         | 243                 | 306  | 1,178   | 2,698           |
| 1952                  | 2,671           | 5,510         | 478           | 44            | 213           | 8,916           | 1,032                              | 390           | 116   | 1,494         | 955                           | 224   | 186                                 | 4,720         | 263                 | 385  | 1,043   | 3,350           |
| 1953                  | 2,926           | 4,965         | 526           | 63            | 196           | 8,676           | 1,078                              | 437           | 395   | 1,911         | 1,004                         | 228   | 244                                 | 4,967         | 273                 | 497  | 1,210   | 3,600           |
| 1954                  | 2,405           | 5,428         | 488           | 18            | 182           | 8,521           | 1,073                              | 395           | 170   | 1,638         | 1,031                         | 238   | 251                                 | 4,367         | 303                 | 554  | 1,324   | 3,800           |
| 1955                  | 2,511           | 6,042         | 439           | 26            | 160           | 9,178           | 1,150                              | 464           | 165   | 1,779         | 1,072                         | 246   | 286                                 | 4,641         | 288                 | 500  | 1,243   | 3,329           |
| 1956                  | 2,229           | 7,085         | 484           | 47            | 178           | 10,023          | 1,080                              | 400           | 150   | 1,630         | 1,010                         | 237   | 291                                 | 4,535         | 259                 | 525  | 1,175   | 3,400           |

<sup>1</sup> Feeds fed as such or in mixed or formula feeds. Data on separate feeds not available before 1926. Skim milk, buttermilk, and whey fed as liquids are not included in this table as they are noncommercial animal-protein feeds. The quantity fed is reported in table 24.

<sup>2</sup> Includes dried and concentrated skim milk, buttermilk, and whey manufactured for animal feed.

<sup>3</sup> Tentative estimate of hominy feed, oat millfeed, molasses, and screenings.

<sup>4</sup> See table 1 for estimates before 1926.

TABLE 24.—Seeds and milk consumed by livestock, 1926-56

| Year beginning Oct. 1 | Seeds                    |            |                       |                           |                       |            | Milk <sup>5</sup> |
|-----------------------|--------------------------|------------|-----------------------|---------------------------|-----------------------|------------|-------------------|
|                       | Cotton-seed <sup>1</sup> | Soy-beans  | Cow-peas <sup>2</sup> | Velvet beans <sup>3</sup> | Pea-nuts <sup>4</sup> | Total      |                   |
|                       | 1,000 tons               | 1,000 tons | 1,000 tons            | 1,000 tons                | 1,000 tons            | 1,000 tons | 1,000 tons        |
| 1926                  | 1,021                    | 39         | 36                    | 534                       | 206                   | 1,836      | 1,970             |
| 1927                  | 495                      | 48         | 53                    | 651                       | 266                   | 1,513      | 1,820             |
| 1928                  | 545                      | 45         | 31                    | 607                       | 245                   | 1,473      | 1,925             |
| 1929                  | 712                      | 51         | 26                    | 626                       | 249                   | 1,664      | 1,925             |
| 1930                  | 727                      | 84         | 23                    | 549                       | 244                   | 1,627      | 2,005             |
| 1931                  | 1,124                    | 87         | 55                    | 450                       | 262                   | 1,978      | 2,060             |
| 1932                  | 648                      | 69         | 40                    | 702                       | 296                   | 1,755      | 2,089             |
| 1933                  | 920                      | 63         | 41                    | 735                       | 332                   | 2,091      | 1,955             |
| 1934                  | 403                      | 60         | 36                    | 826                       | 318                   | 1,643      | 1,880             |
| 1935                  | 410                      | 117        | 36                    | 949                       | 356                   | 1,868      | 1,830             |
| 1936                  | 425                      | 81         | 39                    | 872                       | 378                   | 1,795      | 1,750             |
| 1937                  | 835                      | 99         | 44                    | 894                       | 341                   | 2,213      | 1,846             |
| 1938                  | 308                      | 138        | 42                    | 894                       | 414                   | 1,796      | 1,835             |
| 1939                  | 413                      | 162        | 34                    | 840                       | 308                   | 1,757      | 1,810             |
| 1940                  | 438                      | 150        | 42                    | 977                       | 412                   | 2,019      | 1,888             |
| 1941                  | 232                      | 117        | 50                    | 929                       | 394                   | 1,722      | 1,780             |
| 1942                  | 346                      | 708        | 46                    | 750                       | 434                   | 2,284      | 1,710             |
| 1943                  | 387                      | 705        | 31                    | 775                       | 538                   | 2,436      | 1,545             |
| 1944                  | 261                      | 570        | 23                    | 609                       | 406                   | 1,869      | 1,465             |
| 1945                  | 216                      | 441        | 22                    | 525                       | 317                   | 1,521      | 1,360             |
| 1946                  | 123                      | 228        | 18                    | 433                       | 318                   | 1,120      | 1,300             |
| 1947                  | 297                      | 69         | 21                    | 407                       | 332                   | 1,126      | 1,260             |
| 1948                  | 179                      | 78         | 23                    | 350                       | 310                   | 940        | 1,280             |
| 1949                  | 412                      | 75         | 16                    | 207                       | 245                   | 955        | 1,300             |
| 1950                  | 180                      | 76         | 16                    | 258                       | 222                   | 752        | 1,270             |
| 1951                  | 325                      | 82         | 9                     | 240                       | 269                   | 925        | 1,225             |
| 1952                  | 203                      | 56         | 7                     | 153                       | 220                   | 639        | 1,250             |
| 1953                  | 72                       | 42         | 8                     | 123                       | 174                   | 419        | 1,215             |
| 1954                  | 217                      | 50         | 5                     | 49                        | 179                   | 500        | 1,160             |
| 1955                  | 200                      | 67         | 9                     | 130                       | 184                   | 590        | 1,120             |
| 1956                  | 206                      | 55         | 6                     | 50                        | 283                   | 600        | 1,100             |

<sup>1</sup> Quantity left on farms minus seed for following year.

<sup>2</sup> Cowpeas harvested and fed. Cowpeas on acreage grazed disregarded.

<sup>3</sup> Assumed total production was fed.

<sup>4</sup> Peanuts fed as such and peanuts hogged off.

<sup>5</sup> Dry equivalent of whole milk, skim milk, buttermilk, and whey fed as liquids.



TABLE 25.—Composition and energy per 100 pounds of common feeds for livestock and poultry<sup>1</sup>

| Item<br>(1)  | Livestock except poultry          |                           |                   | Poultry                           |                           |                          |
|--|-----------------------------------|---------------------------|-------------------|-----------------------------------|---------------------------|--------------------------|
|  | Total digestible nutrients<br>(2) | Digestible protein<br>(3) | Net energy<br>(4) | Total digestible nutrients<br>(5) | Digestible protein<br>(6) | Productive energy<br>(7) |
| <b>Grains:</b>   | <i>Pounds</i>                     | <i>Pounds</i>             | <i>Therms</i>     | <i>Pounds</i>                     | <i>Pounds</i>             | <i>Therms</i>            |
| Corn (no. 3).....                                      | 78.6                              | 6.5                       | 78.6              | 80                                | 8.0                       | 107.3                    |
| Oats.....  | 70.1                              | 9.4                       | 68.9              | 62                                | 6.7                       | 76.0                     |
| Barley.....  | 77.7                              | 10.0                      | 70.5              | 68                                | 9.6                       | 81.1                     |
| Wheat.....   | 80.0                              | 11.1                      | 80.0              | 73                                | 12.6                      | 102.4                    |
| Rye.....   | 76.5                              | 10.0                      | 70.5              | 60                                | 9.1                       | 81.7                     |
| Sorghum.....   | 79.9                              | 8.4                       | 77.8              | 81                                | 10.4                      | 109.1                    |
| <b>Oilseed meals:</b>                                  |                                   |                           |                   |                                   |                           |                          |
| Cottonseed meal, 41 percent protein.....               | 71.7                              | 33.3                      | 71.7              | 69                                | 28.5                      | 65.9                     |
| Linseed meal, 34 percent protein.....                  | 75.3                              | 30.5                      | 77.0              | 71                                | 22.4                      | 55.6                     |
| Soybean meal, 44 percent protein.....                  | 78.0                              | 42.0                      | 79.6              | 71                                | 32.5                      | 64.9                     |
| Coconut oil meal.....                                  | 77.1                              | 18.0                      | 77.1              | 71                                | 11.5                      | 61.9                     |
| Peanut meal, 45 percent protein.....                   | 84.5                              | 42.4                      | 86.2              | 71                                | 30.1                      | 66.9                     |
| <b>Animal-protein feeds:</b>                           |                                   |                           |                   |                                   |                           |                          |
| Tankage, 60 percent protein.....                       | 65.8                              | 50.5                      | 65.8              | 69                                | 33.3                      | 67.6                     |
| Meat scraps, 50 percent protein.....                   | 65.3                              | 40.8                      | 65.3              | 70                                | 31.1                      | 72.4                     |
| Fishmeal, 60 percent protein.....                      | 70.8                              | 53.6                      | 70.8              | 71                                | 50.5                      | 89.8                     |
| Skim milk, dried.....                                  | 79.8                              | 29.8                      | 87.8              | 76                                | 26.3                      | 52.5                     |
| Skim milk.....   | 8.7                               | 3.4                       | 10.4              | .....                             | .....                     | .....                    |
| Buttermilk.....  | 9.1                               | 3.3                       | 10.4              | .....                             | .....                     | .....                    |
| <b>Other concentrates:</b>                             |                                   |                           |                   |                                   |                           |                          |
| Gluten meal, 41 percent protein.....                   | 79.7                              | 36.7                      | 80.2              | .....                             | 36.1                      | 83.9                     |
| Gluten feed, 24 percent protein.....                   | 74.1                              | 21.3                      | 70.0              | .....                             | 16.7                      | 56.5                     |
| Brewers' dried grains, 25 percent protein or over..... | 67.1                              | 22.0                      | 63.6              | .....                             | 20.2                      | 100.5                    |
| Distillers' dried grains (corn).....                   | 84.0                              | 19.1                      | 84.0              | .....                             | .....                     | .....                    |
| Wheat bran.....  | 66.9                              | 13.3                      | 61.9              | 41                                | 10.2                      | 47.5                     |
| Wheat middlings.....                                   | 79.2                              | 15.4                      | 75.2              | 48                                | 10.5                      | 58.1                     |
| Oat millfeed.....                                      | 36.8                              | 2.7                       | 24.0              | .....                             | .....                     | .....                    |
| Hominy feed.....                                       | 83.9                              | 7.5                       | 84.5              | .....                             | 8.9                       | 86.6                     |
| Molasses (cane).....                                   | 53.7                              | 0                         | 63.7              | .....                             | 2.0                       | 71.4                     |
| Dried beet pulp.....                                   | 68.7                              | 4.1                       | 73.3              | 15                                | 2.5                       | 22.0                     |
| Wet beet pulp.....                                     | 8.8                               | 8                         | 9.2               | .....                             | .....                     | .....                    |
| Alfalfa meal.....                                      | 54.9                              | 12.4                      | 45.2              | 25                                | 9.1                       | 26.1                     |
| Soybeans.....  | 87.6                              | 33.7                      | 87.6              | 86                                | .....                     | .....                    |
| Cottonseed.....  | 90.8                              | 17.1                      | 76.6              | .....                             | .....                     | .....                    |
| Cowpeas.....   | 75.9                              | 19.2                      | 75.9              | 65                                | .....                     | .....                    |
| Velvet beans.....                                      | 81.7                              | 19.0                      | .....             | .....                             | .....                     | .....                    |
| Peanuts.....   | 103.5                             | 20.2                      | 103.5             | .....                             | .....                     | .....                    |
| <b>Hay:</b>  |                                   |                           |                   |                                   |                           |                          |
| Alfalfa.....   | 50.7                              | 10.9                      | 40.6              | .....                             | .....                     | .....                    |
| Red clover.....  | 51.8                              | 7.2                       | 41.4              | 20                                | 7.4                       | 40.5                     |
| Clover and timothy.....                                | 51.0                              | 4.7                       | 40.8              | .....                             | .....                     | .....                    |
| Lespedeza.....   | 45.1                              | 5.6                       | 36.5              | .....                             | .....                     | .....                    |
| Soybean.....   | 48.6                              | 9.8                       | 34.5              | .....                             | .....                     | .....                    |
| Cowpea.....  | 51.4                              | 12.3                      | 39.1              | .....                             | .....                     | .....                    |
| Peanut vine.....                                       | 47.3                              | 5.4                       | 34.1              | .....                             | 5.0                       | 22.4                     |
| Timothy.....   | 49.1                              | 3.0                       | 37.3              | .....                             | .....                     | .....                    |
| Crested wheatgrass.....                                | 50.8                              | 6.5                       | 38.1              | .....                             | .....                     | .....                    |
| Prairie.....   | 45.1                              | 2.0                       | 33.8              | .....                             | .....                     | .....                    |
| Millet.....  | 50.0                              | 4.9                       | 37.5              | .....                             | .....                     | .....                    |
| Sudan grass.....                                       | 48.5                              | 4.3                       | 36.5              | .....                             | .....                     | .....                    |
| Oat.....   | 47.3                              | 4.9                       | 37.8              | .....                             | .....                     | .....                    |
| Johnson grass.....                                     | 50.3                              | 2.9                       | 37.7              | .....                             | .....                     | .....                    |
| <b>Fodder, straw, and silage:</b>                      |                                   |                           |                   |                                   |                           |                          |
| Corn fodder.....                                       | 53.9                              | 3.3                       | 36.1              | .....                             | .....                     | .....                    |
| Corn stover.....                                       | 45.5                              | 2.0                       | 24.1              | .....                             | .....                     | .....                    |
| Kafir fodder.....                                      | 49.6                              | 4.0                       | 36.3              | .....                             | .....                     | .....                    |
| Kafir stover.....                                      | 46.3                              | 1.6                       | 25.0              | .....                             | .....                     | .....                    |
| Oat straw.....   | 44.8                              | .7                        | 23.3              | .....                             | .....                     | .....                    |
| Wheat straw.....                                       | 40.6                              | .3                        | 10.0              | .....                             | .....                     | .....                    |
| Soybean straw.....                                     | 38.6                              | 1.1                       | 18.5              | .....                             | .....                     | .....                    |
| Cottonseed hulls.....                                  | 43.7                              | 0                         | 29.3              | .....                             | .....                     | .....                    |
| Corn silage with ears.....                             | 19.8                              | 1.3                       | 15.2              | .....                             | .....                     | .....                    |
| Corn silage, few ears.....                             | 16.2                              | 1.1                       | 13.8              | .....                             | .....                     | .....                    |
| Sorghum silage.....                                    | 17.8                              | 1.2                       | 14.7              | .....                             | .....                     | .....                    |
| Grass silage, some legumes, wilted.....                | 19.1                              | 2.9                       | 16.2              | .....                             | .....                     | .....                    |

See footnotes at end of table.

TABLE 25.—Composition and energy per 100 pounds of common feeds for livestock and poultry <sup>1</sup>—Continued

| Item<br><br>(1)   | Livestock except poultry   |                    |               | Poultry                    |                    |                   |
|---|----------------------------|--------------------|---------------|----------------------------|--------------------|-------------------|
|   | Total digestible nutrients | Digestible protein | Net energy    | Total digestible nutrients | Digestible protein | Productive energy |
|   | (2)                        | (3)                | (4)           | (5)                        | (6)                | (7)               |
| Green roughage:   | <i>Pounds</i>              | <i>Pounds</i>      | <i>Therms</i> | <i>Pounds</i>              | <i>Pounds</i>      | <i>Therms</i>     |
| Alfalfa.....  | 14.8                       | 3.5                | 12.9          | -----                      | -----              | -----             |
| Corn fodder.....  | 16.3                       | 1.2                | 14.2          | -----                      | -----              | -----             |
| Kentucky bluegrass pasture.....                           | 20.7                       | 4.1                | 18.2          | -----                      | -----              | -----             |
| Kentucky bluegrass pasture, in seed.....                  | 21.2                       | 1.7                | 14.4          | -----                      | -----              | -----             |
| Clover and mixed grass pasture.....                       | 13.9                       | 3.4                | 12.1          | -----                      | -----              | -----             |
| Pasture grasses and clover, average humid area.....       | 16.0                       | 3.0                | 13.7          | -----                      | -----              | -----             |
| Pasture grasses, western plains active growth.....        | 21.0                       | 2.3                | 17.6          | -----                      | -----              | -----             |
| Pasture grasses, western plains mature and weathered..... | 40.9                       | .5                 | 22.5          | -----                      | -----              | -----             |

<sup>1</sup> The nutrients in a given feed are not utilized to the same extent by all kinds of livestock. However, the same set of data are used for cattle, sheep, horses, and hogs. Poultry do not utilize the nutrients of feeds high in fiber as well as other livestock and separate data are given for them in this table. The composition and net energy data in columns 2 to 4, inclusive, are taken from Feeds and Feeding, Edition 22 (31, appendix tables I, II). When several grades and classes of a feed were given in the tables in Feeds and Feeding, a grade or class was selected or several that most nearly represented average conditions were averaged. The net energy data in column 4 are primarily for cattle and sheep, but they may be used for horses and hogs. When a separate figure was given for dairy cows, it was averaged with the other figure to give a composite figure. The protein content of the grains grown in some of the Western States is less than that shown in this table. The protein content of corn shown in Edition 22 of Feeds and Feeding is lower and that of barley higher than that shown in Edition 20, probably because of the change to hybrid varieties (30, 31). The total digestible nutrients in column 5 were taken from the United States Department of Agriculture Yearbook 1939 (54, p. 842) and the productive energy in column 7 and the digestible protein in column 6 were taken from Texas Agricultural Experiment Station Bulletin 678 (6, table 3). The data in column 5 may not be comparable with that in columns 6 and 7 or with that in columns 2 to 4 because of a difference in grade of a particular feed. Comparable grades were used wherever the data were available. Feeds with considerable fiber have a lower value for poultry than for other livestock, but the grains have a higher productive energy value for poultry than for other livestock. The digestible nutrients in columns 2 and 5 represent the value of the different feeds for *maintaining farm animals* while the energy values in columns 4 and 7 indicate the worth of the feeds as *sources of energy for productive purposes* when the feeds are used properly in a well-balanced ration. The energy values do not take into account the value of the feeds as sources of protein, minerals, and vitamins. Data showing the digestible protein and total digestible nutrients for many feeds are given separately for cattle, sheep, and hogs in the United States Department of Agriculture Yearbook (54, 1939, pp. 1,071-1,074).

TABLE 26.—Relative value of common feed materials compared with corn when fed to different kinds of livestock <sup>1</sup>

| Item                                 | Dairy cows | Fat-tening cattle | Win-tering beef cattle | Hogs    | Fat-tening lambs | Horses and mules | Poultry | Feed unit value, average United States |
|--------------------------------------|------------|-------------------|------------------------|---------|------------------|------------------|---------|--|
| (1)                                  | (2)        | (3)               | (4)                    | (5)     | (6)              | (7)              | (8)     | (9)                                    |
| Grains:                              | Percent    | Percent           | Percent                | Percent | Percent          | Percent          | Percent | Percent                                |
| Corn.....                            | 100        | 100               | 100                    | 100     | 100              | 100              | 100     | 100                                    |
| Oats.....                            | 90         | 85                | 100                    | 90      | 80               | 90               | 90      | 90                                     |
| Barley.....                          | 100        | 88                | 100                    | 90      | 87               | 95               | 80      | 90                                     |
| Wheat.....                           | 105        | 105               | -----                  | 103     | 85               | 95               | 105     | 105                                    |
| Rye.....                             | 90         | 95                | -----                  | 80      | 85               | -----            | -----   | 85                                     |
| Sorghum.....                         | 100        | 92                | 100                    | 90      | 100              | 95               | 95      | 95                                     |
| Oilseed meals:                       |            |                   |                        |         |                  |                  |         |  |
| Cottonseed meal.....                 | 160        | 190               | 150                    | 150     | 200              | 125              | -----   | 135                                    |
| Linseed meal.....                    | 160        | 300               | -----                  | 200     | 225              | 125              | -----   | 150                                    |
| Soybean meal.....                    | 170        | 200               | -----                  | 200     | 225              | 125              | 150     | 165                                    |
| Coconut oil meal.....                | 120        | 90                | -----                  | 110     | 90               | 90               | 60      | 120                                    |
| Peanut meal.....                     | 160        | 200               | -----                  | 200     | 225              | -----            | 140     | 170                                    |
| Animal-protein feeds:                |            |                   |                        |         |                  |                  |         |  |
| Tankage.....                         | -----      | -----             | -----                  | 250     | -----            | -----            | 170     | 225                                    |
| Meat scraps.....                     | -----      | -----             | -----                  | 250     | -----            | -----            | 165     | 200                                    |
| Fishmeal.....                        | -----      | -----             | -----                  | 300     | -----            | -----            | 250     | 250                                    |
| Skim milk, dried.....                | -----      | -----             | -----                  | -----   | -----            | -----            | 200     | 200                                    |
| Skim milk.....                       | -----      | -----             | -----                  | 30      | -----            | -----            | 25      | 20                                     |
| Buttermilk.....                      | -----      | -----             | -----                  | 30      | -----            | -----            | 25      | 20                                     |
| Other concentrates:                  |            |                   |                        |         |                  |                  |         |  |
| Gluten meal.....                     | 165        | 225               | -----                  | 175     | 200              | -----            | -----   | 165                                    |
| Gluten feed.....                     | 115        | -----             | -----                  | -----   | 90               | -----            | -----   | 115                                    |
| Brewers' dried grains.....           | 110        | -----             | -----                  | -----   | 100              | 90               | -----   | 105                                    |
| Distillers' dried grains (corn)..... | 130        | 135               | -----                  | -----   | 200              | -----            | -----   | 140                                    |
| Wheat bran.....                      | 95         | -----             | 75                     | -----   | 90               | 85               | 70      | 90                                     |
| Wheat middlings.....                 | 100        | -----             | -----                  | 105     | -----            | -----            | 90      | 100                                    |
| Oat millfeed.....                    | 45         | 35                | -----                  | 30      | 35               | 45               | -----   | 40                                     |
| Corn and cob meal.....               | 90         | 90                | -----                  | -----   | -----            | -----            | 90      | 90                                     |
| Hominy feed.....                     | 100        | 100               | -----                  | 95      | 100              | 100              | 100     | 100                                    |
| Molasses (cane).....                 | 90         | 85                | -----                  | 70      | 85               | 80               | 50      | 80                                     |
| Dried beet pulp.....                 | 90         | 90                | -----                  | -----   | 90               | -----            | -----   | 90                                     |
| Wet beet pulp.....                   | 10         | 15                | -----                  | -----   | 15               | -----            | -----   | 15                                     |
| Alfalfa meal.....                    | 65         | -----             | -----                  | 70      | -----            | -----            | 70      | 70                                     |
| Soybeans.....                        | 170        | 200               | -----                  | 150     | 200              | 125              | 100     | 160                                    |
| Cottonseed.....                      | 80         | 140               | -----                  | -----   | -----            | -----            | -----   | 120                                    |
| Cowpeas.....                         | -----      | -----             | -----                  | -----   | -----            | -----            | -----   | 120                                    |
| Velvet beans.....                    | 100        | 190               | -----                  | -----   | -----            | -----            | -----   | 120                                    |
| Peanuts <sup>2</sup> .....           | -----      | -----             | -----                  | 100     | -----            | -----            | -----   | 100                                    |
| Hay:                                 |            |                   |                        |         |                  |                  |         |  |
| All hay, U. S. average.....          | 40         | 41                | 41                     | -----   | 42               | 40               | -----   | 41                                     |
| Alfalfa.....                         | 60         | 60                | 60                     | 150     | 60               | 60               | 60      | 55                                     |
| Red clover.....                      | 55         | 50                | 60                     | -----   | 60               | -----            | 55      | 50                                     |
| Clover and timothy.....              | 45         | -----             | 50                     | -----   | -----            | 60               | -----   | 45                                     |
| Lespedeza (annual).....              | 55         | 50                | -----                  | 150     | -----            | 60               | 60      | 45                                     |
| Soybean.....                         | 50         | 40                | 45                     | 150     | 50               | 55               | -----   | 50                                     |
| Cowpea.....                          | 55         | 50                | 50                     | -----   | 60               | 60               | -----   | 55                                     |
| Peanut.....                          | 55         | 50                | -----                  | -----   | 60               | 60               | -----   | 45                                     |
| Timothy.....                         | 40         | -----             | 45                     | -----   | 30               | 55               | -----   | 40                                     |
| Crested wheat grass.....             | -----      | -----             | 50                     | -----   | -----            | 55               | -----   | 45                                     |
| Prairie.....                         | 50         | -----             | 45                     | -----   | 35               | 50               | -----   | 40                                     |
| Millet.....                          | -----      | -----             | -----                  | -----   | -----            | 50               | -----   | 40                                     |
| Sudan grass.....                     | -----      | -----             | 45                     | -----   | -----            | 50               | -----   | 40                                     |
| Oat.....                             | -----      | 50                | 60                     | -----   | -----            | -----            | -----   | 45                                     |
| Johnson grass.....                   | -----      | -----             | -----                  | -----   | -----            | 50               | -----   | 45                                     |

See footnotes at end of table.

TABLE 26.—Relative value of common feed materials compared with corn when fed to different kinds of livestock<sup>1</sup>—Continued

| Item                           | Dairy cows     | Fat-tening cattle | Win-tering beef cattle | Hogs           | Fat-tening lambs | Horses and mules | Poultry        | Feed unit value, average United States |
|--------------------------------|----------------|-------------------|------------------------|----------------|------------------|------------------|----------------|--|
| (1)                            | (2)            | (3)               | (4)                    | (5)            | (6)              | (7)              | (8)            | (9)                                    |
| Fodder, straw, and silage:     | <i>Percent</i> | <i>Percent</i>    | <i>Percent</i>         | <i>Percent</i> | <i>Percent</i>   | <i>Percent</i>   | <i>Percent</i> | <i>Percent</i>                         |
| Corn fodder.....               | 40             | 50                | 60                     | -----          | 65               | -----            | -----          | 40                                     |
| Corn stover.....               | 15             | 10                | 50                     | -----          | -----            | 45               | -----          | 25                                     |
| Kafir fodder.....              | 40             | 40                | 50                     | -----          | 50               | 60               | -----          | 40                                     |
| Kafir stover.....              | 15             | 10                | 50                     | -----          | -----            | 50               | -----          | 25                                     |
| Oat straw.....                 | 20             | 10                | 50                     | -----          | -----            | 45               | -----          | 35                                     |
| Wheat straw.....               | -----          | -----             | 40                     | -----          | -----            | 35               | -----          | 25                                     |
| Soybean straw.....             | -----          | -----             | 40                     | -----          | 15               | -----            | -----          | 20                                     |
| Cottonseed hulls.....          | 10             | 25                | 40                     | -----          | -----            | -----            | -----          | 25                                     |
| Corn silage with ears.....     | 20             | 30                | 25                     | -----          | 30               | -----            | -----          | 20                                     |
| Corn silage, few ears.....     | 15             | 18                | 18                     | -----          | -----            | -----            | -----          | 15                                     |
| Sorghum silage with heads..... | 18             | 25                | 20                     | -----          | 20               | -----            | -----          | 18                                     |
| Grass silage.....              | 20             | 25                | 20                     | -----          | 20               | -----            | -----          | 20                                     |

<sup>1</sup> The purpose of this table is to give data for converting different feeds into the feed equivalent of corn. A pound of corn is expressed as 100 percent and a pound of all other feeds as a percentage of corn. Thus, in the data shown in column 9, 100 pounds of gluten meal are equivalent in feeding value for mixed livestock to 165 pounds of corn and 100 pounds of average alfalfa hay are equal to 55 pounds of corn. Another way of stating it is that 100 pounds of gluten meal make 165 feed units (a feed unit is the equivalent of a pound of corn) and 100 pounds of alfalfa make 55 feed units. Some feeds are worth more for one class of livestock than for another, as shown in columns 2 to 8, inclusive. The values given in columns 2 to 8, inclusive, assume that the feed is to be fed as part of a *properly balanced ration and that it is to be fed to the age of livestock to which it is suited*. It also assumes that the grains are ground where this is desirable. If high-protein feeds are fed more liberally than is necessary to balance the ration, their value will not be as high as given in this table, but they will be worth only as much as their net energy value compared with corn (table 25). In parts of the South, cottonseed meal is fed in greater abundance than is needed to balance the ration; consequently, it is worth less per pound than corn. This is the reason for its relatively low average value in column 9. The data in columns 2 to 8 summarize the general relation in feeding value of corn and other feeds as determined by feeding experiments for the specific class of livestock fed fairly good rations. The data should be considered as general indications rather than as precise measures and the values given in columns 2 to 8 probably represent better-than-average conditions. Few experiments have been made in which hay or other roughage is compared with corn or other concentrates. When experimental evidence was not available it was assumed, from the composition, that alfalfa was worth 60 percent as much as corn. Other roughages were compared with alfalfa as 100 percent as shown by experimental data. 60 percent of these values was then used as the value compared with corn. The data comparing different feeds for poultry were less complete than for most other classes of livestock, and the composition of feeds shown in table 25 was then used in estimating feed values for poultry. In column 9 are given the estimated average values of the different feeds compared with corn, for the United States. These were arrived at (1) from the values in the preceding columns, taking into account the proportion of the feed fed to different livestock and (2) by comparing the composition with other feeds. Some allowance was made for losses in feeding value of hay and other roughages because of improper harvesting and curing shown by the average figures in column 9, as the figures for hay and other roughage in columns 2 to 8 are probably for better-than-average quality of roughage. Hybrid corn has a lower protein content than open-pollinated varieties and hence corn now probably has a little lower feeding value compared with most other feeds than formerly. However, most of the comparisons in feeding value summarized in columns 2 to 8 were made before hybrid corn was common.

<sup>2</sup> 150 to 200 when fed to hogs and 100 to 125 when peanuts are hogged off.



TABLE 27.—Pigs saved, poultry raised, and goats clipped during year, 1920-57

| Calendar year | Pigs saved |            |            | Farm chickens raised |                                  | Broilers produced | Turkeys raised |              |              | Goats clipped |
|---------------|------------|------------|------------|----------------------|----------------------------------|-------------------|----------------|--------------|--------------|---------------|
|               | Spring     | Fall       | Total      | All                  | Pullets on hand Jan. 1 following |                   | Heavy breeds   | Light breeds | Total        |               |
|               | 1,000 head | 1,000 head | 1,000 head | Million head         | Million head                     | Million head      | Million head   | Million head | Million head | 1,000 head    |
| 1920          |            |            |            | 560                  |                                  |                   |                |              |              | 2,367         |
| 1921          |            |            |            | 600                  |                                  |                   |                |              |              | 2,528         |
| 1922          |            |            |            | 632                  |                                  |                   |                |              |              | 2,254         |
| 1923          |            |            |            | 660                  |                                  |                   |                |              |              | 2,307         |
| 1924          | 50,218     | 23,847     | 74,065     | 662                  |                                  |                   |                |              |              | 2,548         |
| 1925          | 47,859     | 22,451     | 70,310     | 679                  |                                  |                   |                |              |              | 2,565         |
| 1926          | 50,579     | 24,865     | 75,444     | 718                  |                                  |                   |                |              |              | 3,124         |
| 1927          | 54,502     | 26,744     | 81,246     | 750                  |                                  |                   |                |              |              | 3,265         |
| 1928          | 52,390     | 26,292     | 78,682     | 700                  |                                  |                   |                |              |              | 3,716         |
| 1929          | 50,479     | 25,646     | 76,125     | 751                  | 253                              |                   |                |              | 18.5         | 3,873         |
| 1930          | 49,332     | 24,803     | 74,135     | 777                  | 244                              |                   |                |              | 17.4         | 4,241         |
| 1931          | 53,984     | 29,192     | 83,176     | 709                  | 230                              |                   |                |              | 18.2         | 4,457         |
| 1932          | 51,031     | 31,494     | 82,525     | 736                  | 237                              |                   |                |              | 22.3         | 4,201         |
| 1933          | 53,460     | 30,740     | 84,200     | 750                  | 238                              |                   |                |              | 23.2         | 4,092         |
| 1934          | 39,698     | 17,068     | 56,766     | 644                  | 212                              | 34                |                |              | 21.7         | 3,916         |
| 1935          | 32,884     | 23,260     | 56,144     | 658                  | 226                              | 43                |                |              | 20.8         | 3,565         |
| 1936          | 41,422     | 24,303     | 65,725     | 715                  | 249                              | 53                |                |              | 28.0         | 3,715         |
| 1937          | 38,525     | 23,994     | 62,519     | 601                  | 215                              | 68                |                |              | 25.8         | 3,774         |
| 1938          | 43,289     | 28,566     | 71,855     | 651                  | 242                              | 82                |                |              | 26.9         | 3,918         |
| 1939          | 53,238     | 33,714     | 86,952     | 697                  | 254                              | 106               |                |              | 33.6         | 4,068         |
| 1940          | 49,584     | 30,282     | 79,866     | 634                  | 240                              | 143               |                |              | 33.8         | 4,297         |
| 1941          | 49,368     | 35,584     | 84,952     | 745                  | 278                              | 192               |                |              | 32.6         | 4,542         |
| 1942          | 61,093     | 43,810     | 104,903    | 844                  | 319                              | 228               |                |              | 32.5         | 4,322         |
| 1943          | 74,223     | 47,584     | 121,807    | 1,001                | 350                              | 285               |                |              | 31.8         | 4,276         |
| 1944          | 55,754     | 30,905     | 86,659     | 832                  | 301                              | 265               |                |              | 35.1         | 4,109         |
| 1945          | 52,216     | 34,611     | 86,827     | 890                  | 322                              | 366               |                |              | 42.9         | 4,291         |
| 1946          | 52,191     | 30,503     | 82,694     | 738                  | 281                              | 293               |                |              | 40.1         | 3,939         |
| 1947          | 52,199     | 31,090     | 83,289     | 719                  | 278                              | 310               |                |              | 34.0         | 3,672         |
| 1948          | 50,468     | 33,358     | 83,826     | 615                  | 258                              | 371               |                |              | 31.5         | 3,164         |
| 1949          | 56,969     | 36,275     | 93,244     | 705                  | 287                              | 513               |                |              | 41.3         | 2,558         |
| 1950          | 57,958     | 39,423     | 97,381     | 620                  | 258                              | 631               |                |              | 44.4         | 2,530         |
| 1951          | 61,298     | 39,288     | 100,586    | 623                  | 261                              | 789               |                |              | 53.3         | 2,472         |
| 1952          | 55,135     | 33,694     | 88,829     | 561                  | 238                              | 861               |                |              | 62.3         | 2,287         |
| 1953          | 47,940     | 29,974     | 77,914     | 548                  | 255                              | 947               | 43.4           | 16.4         | 59.8         | 2,337         |
| 1954          | 52,852     | 33,978     | 86,830     | 540                  | 257                              | 1,048             | 48.5           | 19.2         | 67.7         | 2,618         |
| 1955          | 57,690     | 38,029     | 95,719     | 462                  | 239                              | 1,078             | 48.8           | 16.8         | 65.6         | 2,983         |
| 1956          | 53,186     | 36,386     | 89,572     | 472                  | 252                              | 1,330             | 63.2           | 13.7         | 76.9         | 3,164         |
| 1957          | 52,591     | 37,094     | 89,685     | 395                  | 224                              | 1,452             | 67.8           | 13.4         | 81.2         | 3,246         |

TABLE 28.—*Livestock production on farms, 1910–56* <sup>1</sup>

| Calendar year | Milk <sup>2</sup>     | Cattle and calves     | Hogs                  | Sheep and lambs       | Wool <sup>3</sup>     | Eggs                | Chickens <sup>4</sup> | Commercial broilers   | Turkeys               | Chickens raised <sup>5</sup> | Cattle and calves, excluding milk cows <sup>6</sup> |
|---------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|---------------------|-----------------------|-----------------------|-----------------------|------------------------------|---|
|               | <i>Million pounds</i> | <i>Million pounds</i> | <i>Million pounds</i> | <i>Million pounds</i> | <i>Million pounds</i> | <i>Million eggs</i> | <i>Million pounds</i> | <i>Million pounds</i> | <i>Million pounds</i> | <i>Million pounds</i>        | <i>Million pounds</i>                               |
| 1910          | 65,090                | 12,672                | 12,025                | 1,150                 | 346                   | 27,000              | 2,064                 |                       |                       | 2,350                        |   |
| 1911          | 65,850                | 12,586                | 12,517                | 1,128                 | 343                   | 29,400              | 1,965                 |                       |                       | 2,240                        |   |
| 1912          | 66,570                | 13,807                | 11,945                | 1,275                 | 319                   | 28,300              | 1,949                 |                       |                       | 2,220                        |   |
| 1913          | 67,710                | 14,866                | 12,220                | 1,187                 | 309                   | 28,100              | 1,954                 |                       |                       | 2,230                        |   |
| 1914          | 69,560                | 15,562                | 12,594                | 1,271                 | 294                   | 27,900              | 2,018                 |                       |                       | 2,300                        |   |
| 1915          | 70,980                | 15,136                | 13,935                | 1,254                 | 281                   | 29,900              | 1,955                 |                       |                       | 2,230                        |   |
| 1916          | 72,300                | 15,933                | 13,582                | 1,118                 | 288                   | 28,800              | 1,903                 |                       |                       | 2,170                        |   |
| 1917          | 73,370                | 16,764                | 12,928                | 1,126                 | 277                   | 27,700              | 1,934                 |                       |                       | 2,200                        |   |
| 1918          | 73,870                | 15,658                | 14,792                | 1,238                 | 296                   | 28,000              | 2,065                 |                       |                       | 2,350                        |   |
| 1919          | 73,800                | 13,387                | 13,986                | 1,143                 | 318                   | 30,500              | 2,003                 |                       |                       | 2,280                        |   |
| 1920          | 75,810                | 12,403                | 13,533                | 926                   | 294                   | 29,700              | 1,954                 |                       |                       | 2,230                        |   |
| 1921          | 78,040                | 12,817                | 14,132                | 1,146                 | 290                   | 30,800              | 2,111                 |                       |                       | 2,490                        |   |
| 1922          | 81,190                | 13,185                | 16,518                | 1,080                 | 270                   | 33,000              | 2,222                 |                       |                       | 2,530                        |   |
| 1923          | 83,840                | 13,171                | 17,008                | 1,253                 | 273                   | 35,000              | 2,319                 |                       |                       | 2,640                        |   |
| 1924          | 89,240                | 13,402                | 15,388                | 1,459                 | 282                   | 34,592              | 2,197                 |                       |                       | 2,516                        | 13,200  |
| 1925          | 90,699                | 12,953                | 14,168                | 1,508                 | 300                   | 34,969              | 2,275                 |                       |                       | 2,580                        | 13,100  |
| 1926          | 93,325                | 12,605                | 14,909                | 1,609                 | 319                   | 37,248              | 2,409                 |                       |                       | 2,728                        | 12,700  |
| 1927          | 95,172                | 12,072                | 16,340                | 1,664                 | 340                   | 38,627              | 2,507                 |                       |                       | 2,850                        | 12,100  |
| 1928          | 95,843                | 12,327                | 16,189                | 1,773                 | 367                   | 38,659              | 2,316                 |                       |                       | 2,660                        | 12,100  |
| 1929          | 98,988                | 12,754                | 15,852                | 1,823                 | 382                   | 37,921              | 2,506                 |                       | 239                   | 2,854                        | 12,300  |
| 1930          | 100,158               | 13,263                | 15,176                | 1,965                 | 414                   | 39,067              | 2,553                 |                       | 228                   | 2,875                        | 12,600  |
| 1931          | 103,029               | 13,386                | 16,541                | 2,052                 | 442                   | 38,532              | 2,368                 |                       | 244                   | 2,694                        | 12,500  |
| 1932          | 103,810               | 14,232                | 16,368                | 1,829                 | 418                   | 36,298              | 2,489                 |                       | 303                   | 2,870                        | 13,400  |
| 1933          | 104,762               | 15,405                | 16,566                | 1,860                 | 438                   | 35,514              | 2,524                 |                       | 319                   | 2,850                        | 14,600  |
| 1934          | 101,621               | 14,538                | 12,385                | 1,911                 | 429                   | 34,429              | 2,105                 | 97                    | 300                   | 2,447                        | 15,200  |
| 1935          | 101,205               | 13,651                | 10,673                | 1,835                 | 428                   | 33,609              | 2,210                 | 123                   | 298                   | 2,566                        | 14,400  |
| 1936          | 102,410               | 14,438                | 12,976                | 1,852                 | 419                   | 34,534              | 2,410                 | 152                   | 405                   | 2,788                        | 14,900  |
| 1937          | 101,908               | 13,746                | 12,506                | 1,932                 | 422                   | 37,564              | 2,032                 | 196                   | 376                   | 2,404                        | 13,900  |
| 1938          | 105,807               | 14,047                | 14,372                | 2,038                 | 424                   | 37,356              | 2,185                 | 240                   | 395                   | 2,539                        | 13,900  |
| 1939          | 106,792               | 15,177                | 17,079                | 2,029                 | 426                   | 38,843              | 2,338                 | 306                   | 494                   | 2,718                        | 14,900  |
| 1940          | 109,412               | 15,702                | 17,043                | 2,101                 | 434                   | 39,695              | 2,158                 | 414                   | 502                   | 2,599                        | 15,300  |
| 1941          | 115,088               | 17,029                | 17,489                | 2,251                 | 453                   | 41,878              | 2,586                 | 560                   | 512                   | 3,055                        | 16,300  |
| 1942          | 118,533               | 18,568                | 21,105                | 2,313                 | 455                   | 48,597              | 3,005                 | 674                   | 522                   | 3,545                        | 17,900  |
| 1943          | 117,017               | 19,159                | 25,375                | 2,108                 | 444                   | 54,539              | 3,679                 | 833                   | 509                   | 4,204                        | 18,700  |
| 1944          | 117,023               | 19,708                | 20,584                | 1,938                 | 412                   | 58,530              | 3,009                 | 790                   | 584                   | 3,578                        | 19,700  |
| 1945          | 119,828               | 19,517                | 18,843                | 1,912                 | 378                   | 56,221              | 3,315                 | 1,107                 | 740                   | 3,827                        | 20,600  |
| 1946          | 117,697               | 18,999                | 18,744                | 1,762                 | 342                   | 55,962              | 2,715                 | 884                   | 714                   | 3,247                        | 19,600  |
| 1947          | 116,814               | 19,130                | 18,159                | 1,567                 | 308                   | 55,384              | 2,668                 | 936                   | 611                   | 3,164                        | 20,200  |
| 1948          | 112,671               | 18,402                | 18,222                | 1,383                 | 278                   | 54,899              | 2,289                 | 1,127                 | 574                   | 2,767                        | 19,000  |
| 1949          | 116,103               | 19,274                | 19,457                | 1,278                 | 248                   | 56,154              | 2,643                 | 1,570                 | 769                   | 3,102                        | 19,300  |
| 1950          | 116,602               | 21,185                | 20,214                | 1,336                 | 249                   | 58,954              | 2,310                 | 1,944                 | 817                   | 2,790                        | 21,400  |
| 1951          | 114,681               | 22,990                | 21,436                | 1,372                 | 254                   | 58,063              | 2,312                 | 2,415                 | 950                   | 2,804                        | 23,400  |
| 1952          | 114,671               | 24,933                | 19,727                | 1,471                 | 267                   | 58,068              | 2,025                 | 2,624                 | 1,049                 | 2,525                        | 24,500  |
| 1953          | 120,221               | 27,405                | 16,800                | 1,538                 | 274                   | 57,891              | 2,046                 | 2,907                 | 1,008                 | 2,576                        | 27,100  |
| 1954          | 122,094               | 27,580                | 18,218                | 1,607                 | 279                   | 58,933              | 1,948                 | 3,236                 | 1,161                 | 2,430                        | 28,000  |
| 1955          | 123,128               | 28,090                | 20,044                | 1,617                 | 275                   | 59,496              | 1,634                 | 3,350                 | 1,090                 | 2,171                        | 28,300  |
| 1956          | 125,698               | 27,855                | 18,833                | 1,564                 | 279                   | 61,042              | 1,687                 | 4,275                 | 1,275                 | 2,182                        | 28,000  |

<sup>1</sup> The figure for livestock represents the net live-weight production in the calendar year. Except for milk and chickens before 1923, production data given are official estimates of the Department of Agriculture.

<sup>2</sup> Milk production 1910–23 from Works Progress Administration report (2).

<sup>3</sup> Includes pulled wool.

<sup>4</sup> Net annual live-weight production of chickens excluding broilers, equivalent to the chickens raised during the year less death loss of chickens that were on hand at the beginning of the year. It thus combines the raising and laying flock in one enterprise by subtracting losses in the laying flock from chickens raised. For this reason, the estimated weight of chickens raised, shown in another column, is used in showing feed fed per 100 pounds.

<sup>5</sup> Number of chickens raised multiplied by average weight per head of chickens sold. Before 1924, 114 percent of net live-weight production of chickens was used.

<sup>6</sup> This is the net live-weight production of cattle and calves excluding milk cows. The estimated weight of the increase or decrease of the milk-cow herd in the year was subtracted from or added to the net live weight production of cattle and calves as reported by AMS. Changes of less than 100,000 head were disregarded.

TABLE 29.—*Livestock production on farms and related data, feeding year, 1910-56*<sup>1</sup>

| Year beginning Oct. 1 | Milk produced  | Net live-weight production             |                 |                | Hogs fed in year <sup>2</sup> | Eggs produced | Average number layers in year |
|-----------------------|----------------|--|-----------------|----------------|-------------------------------|---------------|-------------------------------|
|                       |                | Cattle and calves, excluding milk cows | Sheep and lambs | Hogs           |                               |               |                               |
|                       | Million pounds | Million pounds                         | Million pounds  | Million pounds | 1,000 head                    | Million eggs  | Million head                  |
| 1910                  | 65,700         | 12,800                                 | 1,134           | 12,400         | -----                         | 29,100        | -----                         |
| 1911                  | 66,400         | 12,000                                 | 1,238           | 12,100         | -----                         | 28,400        | -----                         |
| 1912                  | 67,500         | 12,200                                 | 1,209           | 12,200         | -----                         | 28,100        | -----                         |
| 1913                  | 69,200         | 13,100                                 | 1,250           | 12,500         | -----                         | 27,900        | -----                         |
| 1914                  | 70,700         | 14,400                                 | 1,258           | 13,600         | -----                         | 29,700        | -----                         |
| 1915                  | 72,000         | 15,400                                 | 1,152           | 13,700         | -----                         | 28,900        | -----                         |
| 1916                  | 73,200         | 16,400                                 | 1,124           | 13,100         | -----                         | 27,800        | -----                         |
| 1917                  | 73,800         | 17,000                                 | 1,210           | 14,300         | -----                         | 28,000        | -----                         |
| 1918                  | 73,800         | 16,700                                 | 1,167           | 14,200         | -----                         | 30,200        | -----                         |
| 1919                  | 75,400         | 16,200                                 | 980             | 13,600         | -----                         | 29,800        | -----                         |
| 1920                  | 77,600         | 15,600                                 | 1,091           | 14,000         | -----                         | 30,700        | -----                         |
| 1921                  | 80,600         | 15,500                                 | 1,096           | 15,900         | -----                         | 32,700        | -----                         |
| 1922                  | 83,300         | 15,000                                 | 1,210           | 16,900         | -----                         | 34,800        | -----                         |
| 1923                  | 88,200         | 14,400                                 | 1,407           | 15,800         | -----                         | 34,600        | -----                         |
| 1924                  | 90,400         | 13,125                                 | 1,496           | 14,600         | 72,917                        | 34,900        | -----                         |
| 1925                  | 92,700         | 12,800                                 | 1,584           | 14,600         | 71,598                        | 36,984        | 313                           |
| 1926                  | 94,710         | 12,250                                 | 1,650           | 15,400         | 77,268                        | 38,475        | 326                           |
| 1927                  | 95,675         | 12,100                                 | 1,746           | 16,500         | 80,278                        | 38,339        | 330                           |
| 1928                  | 98,201         | 12,250                                 | 1,810           | 16,000         | 77,784                        | 38,148        | 317                           |
| 1929                  | 99,463         | 12,525                                 | 1,929           | 15,300         | 75,606                        | 38,818        | 323                           |
| 1930                  | 102,097        | 13,525                                 | 2,030           | 15,600         | 76,368                        | 38,209        | 307                           |
| 1931                  | 103,789        | 13,175                                 | 1,885           | 16,500         | 81,625                        | 37,101        | 299                           |
| 1932                  | 104,657        | 14,300                                 | 1,852           | 16,800         | 83,705                        | 35,516        | 300                           |
| 1933                  | 102,458        | 15,050                                 | 1,898           | 15,000         | 77,530                        | 34,450        | 296                           |
| 1934                  | 101,468        | 14,600                                 | 1,854           | 10,600         | 53,396                        | 33,190        | 275                           |
| 1935                  | 101,505        | 14,775                                 | 1,848           | 12,000         | 60,219                        | 34,343        | 282                           |
| 1936                  | 102,711        | 14,150                                 | 1,912           | 12,800         | 63,937                        | 37,202        | 292                           |
| 1937                  | 104,781        | 13,900                                 | 2,011           | 15,100         | 63,209                        | 36,970        | 274                           |
| 1938                  | 106,764        | 14,650                                 | 2,031           | 15,900         | 76,643                        | 38,441        | 286                           |
| 1939                  | 109,081        | 15,200                                 | 2,083           | 17,600         | 85,438                        | 39,494        | 297                           |
| 1940                  | 113,888        | 16,050                                 | 2,213           | 16,900         | 79,786                        | 40,951        | 294                           |
| 1941                  | 118,565        | 17,500                                 | 2,298           | 19,400         | 90,503                        | 47,498        | 330                           |
| 1942                  | 117,754        | 18,500                                 | 2,159           | 24,100         | 111,024                       | 53,880        | 375                           |
| 1943                  | 116,238        | 19,450                                 | 1,980           | 23,600         | 112,925                       | 57,850        | 397                           |
| 1944                  | 120,141        | 20,375                                 | 1,918           | 18,800         | 85,125                        | 56,276        | 373                           |
| 1945                  | 117,661        | 19,800                                 | 1,800           | 18,900         | 86,818                        | 54,468        | 392                           |
| 1946                  | 117,785        | 20,050                                 | 1,615           | 18,300         | 82,704                        | 55,085        | 347                           |
| 1947                  | 112,593        | 19,300                                 | 1,429           | 18,400         | 82,451                        | 54,281        | 335                           |
| 1948                  | 115,025        | 19,225                                 | 1,304           | 18,600         | 87,027                        | 54,803        | 327                           |
| 1949                  | 116,694        | 20,875                                 | 1,322           | 19,800         | 93,752                        | 58,721        | 342                           |
| 1950                  | 117,052        | 22,900                                 | 1,363           | 21,100         | 99,001                        | 57,721        | 329                           |
| 1951                  | 113,507        | 24,225                                 | 1,416           | 20,600         | 97,516                        | 57,809        | 323                           |
| 1952                  | 118,987        | 26,450                                 | 1,522           | 18,600         | 84,141                        | 57,436        | 313                           |
| 1953                  | 122,018        | 27,775                                 | 1,589           | 17,400         | 81,169                        | 58,385        | 313                           |
| 1954                  | 122,316        | 28,225                                 | 1,614           | 19,400         | 89,986                        | 59,602        | 312                           |
| 1955                  | 125,421        | 28,075                                 | 1,577           | 19,500         | 92,785                        | 60,311        | 310                           |
| 1956                  | 126,600        | 27,680                                 | 1,536           | 18,800         | 89,132                        | 61,539        | 310                           |

<sup>1</sup> Production of livestock for the year beginning October 1 was calculated in order to relate more closely livestock to feed fed. Since 1924, milk and eggs produced have been reported by the Agricultural Marketing Service by months, so the yearly production of milk and eggs was calculated for the year beginning October 1. Hog production has been calculated by the author for each quarter of the year since 1926. Total concentrates fed to all livestock in each quarter of the year are reported in AMS Feed Statistics, (44, table 2). The quantity fed in the year to each class of livestock except hogs was allocated to each quarter by estimating the percentage fed in each quarter. The rest of the feed in each quarter was assumed to have been fed to hogs. The annual production of hogs as reported by AMS was then distributed by quarters in proportion to the feed fed as calculated above. Before 1926, hog production for the year beginning October 1 was calculated from the calendar-year production by taking 25 percent of production in one calendar year and 75 percent in the following year and adding the 2 figures. The same method was used in estimating the production of cattle and calves in all years since 1924, as no monthly production figures are compiled. Before 1924, cattle and calf production was estimated by multiplying the number of cattle as of January 1, excluding milk cows, by 330 pounds. Sheep and lamb production was estimated throughout by the 25 to 75 percent method. The error may be rather large in some years by this method of calculation. Before 1924, for milk, the percentages used were 20 and 80, and for eggs 12 and 88, in estimating production for the year beginning October 1.

<sup>2</sup> The number of hogs fed in the feeding year beginning October 1 was obtained by a method described in "Animal Units Fed Annually", U. S. Dept. Agr. Statis. Bul. 194 (23).



TABLE 30.—*Animal units of livestock fed annually, by kinds, 1909-56*

| Year beginning<br>Oct. 1 | Grain-<br>consuming    | Rough-<br>age-con-<br>suming | Grain-<br>and-<br>roughage<br>consuming | Year beginning<br>Oct. 1 | Grain-<br>consuming    | Rough-<br>age-con-<br>suming | Grain-<br>and-<br>roughage<br>consuming |
|--------------------------|------------------------|------------------------------|---|--------------------------|------------------------|------------------------------|---|
|                          | <i>Thou-<br/>sands</i> | <i>Thou-<br/>sands</i>       | <i>Thou-<br/>sands</i>                  |                          | <i>Thou-<br/>sands</i> | <i>Thou-<br/>sands</i>       | <i>Thou-<br/>sands</i>                  |
| 1909.....                | 127, 779               | 83, 377                      | 92, 582                                 | 1935.....                | 133, 656               | 84, 604                      | 97, 097                                 |
| 1910.....                | 134, 910               | 82, 688                      | 73, 718                                 | 1936.....                | 137, 827               | 82, 741                      | 95, 835                                 |
| 1911.....                | 133, 315               | 81, 362                      | 92, 810                                 | 1937.....                | 137, 812               | 81, 145                      | 94, 694                                 |
| 1912.....                | 134, 913               | 81, 697                      | 93, 452                                 | 1938.....                | 148, 777               | 81, 603                      | 98, 006                                 |
| 1913.....                | 137, 661               | 83, 982                      | 95, 738                                 | 1939.....                | 156, 143               | 83, 472                      | 101, 051                                |
| 1914.....                | 142, 222               | 87, 242                      | 99, 107                                 |                          |                        |                              |   |
| 1915.....                | 146, 483               | 90, 128                      | 102, 204                                | 1940.....                | 155, 753               | 86, 414                      | 102, 919                                |
| 1916.....                | 143, 431               | 92, 885                      | 103, 152                                | 1941.....                | 167, 119               | 90, 350                      | 109, 285                                |
| 1917.....                | 147, 355               | 94, 962                      | 105, 573                                | 1942.....                | 192, 227               | 94, 512                      | 118, 232                                |
| 1918.....                | 150, 305               | 94, 750                      | 106, 157                                | 1943.....                | 193, 054               | 97, 209                      | 120, 160                                |
| 1919.....                | 145, 859               | 93, 638                      | 104, 194                                | 1944.....                | 172, 568               | 95, 631                      | 113, 917                                |
|                          |                        |                              |   |                          |                        |                              |   |
| 1920.....                | 144, 001               | 91, 208                      | 102, 112                                | 1945.....                | 167, 259               | 91, 386                      | 109, 489                                |
| 1921.....                | 149, 472               | 90, 970                      | 102, 993                                | 1946.....                | 159, 600               | 88, 077                      | 105, 230                                |
| 1922.....                | 158, 170               | 89, 078                      | 104, 191                                | 1947.....                | 153, 098               | 83, 977                      | 100, 682                                |
| 1923.....                | 157, 379               | 87, 281                      | 102, 587                                | 1948.....                | 158, 597               | 82, 096                      | 100, 660                                |
| 1924.....                | 151, 201               | 84, 610                      | 99, 126                                 | 1949.....                | 163, 844               | 82, 381                      | 102, 291                                |
|                          |                        |                              |   |                          |                        |                              |   |
| 1925.....                | 149, 439               | 81, 951                      | 96, 890                                 | 1950.....                | 168, 095               | 85, 592                      | 105, 629                                |
| 1926.....                | 153, 071               | 79, 634                      | 96, 409                                 | 1951.....                | 167, 349               | 90, 175                      | 108, 598                                |
| 1927.....                | 153, 691               | 78, 856                      | 96, 194                                 | 1952.....                | 158, 815               | 94, 567                      | 109, 621                                |
| 1928.....                | 153, 159               | 80, 251                      | 96, 897                                 | 1953.....                | 156, 741               | 95, 664                      | 110, 024                                |
| 1929.....                | 154, 070               | 81, 199                      | 98, 570                                 | 1954.....                | 161, 458               | 96, 153                      | 111, 671                                |
|                          |                        |                              |   | 1955.....                | 165, 630               | 96, 034                      | 112, 724                                |
| 1930.....                | 152, 753               | 82, 776                      | 99, 496                                 | 1956 <sup>1</sup> .....  | 163, 077               | 93, 971                      | 110, 675                                |
| 1931.....                | 156, 436               | 84, 795                      | 101, 912                                |                          |                        |                              |   |
| 1932.....                | 159, 736               | 88, 206                      | 105, 614                                |                          |                        |                              |   |
| 1933.....                | 153, 946               | 91, 932                      | 106, 142                                |                          |                        |                              |   |
| 1934.....                | 131, 194               | 86, 082                      | 96, 225                                 |                          |                        |                              |   |

<sup>1</sup> Preliminary.



TABLE 31.—*Corn fed to different kinds of livestock, 1909-56*

| Year<br>beginning<br>Oct. 1 | Excluding corn in silage <sup>1</sup> |                       |                       |                       |                       |                        |                                      | Corn in silage        |                       |                       |                       |                       |
|-----------------------------|---------------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|------------------------|--------------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
|                             | Principal livestock on farms          |                       |                       |                       |                       |                        | Other<br>live-<br>stock <sup>2</sup> | Total                 | Dairy<br>cattle       | Beef<br>cattle        | Sheep                 | Total                 |
|                             | Dairy<br>cattle                       | Beef<br>cattle        | Sheep                 | Poultry               | Hogs                  | Horses<br>and<br>mules |                                      |                       |                       |                       |                       |                       |
|                             | <i>1,000<br/>tons</i>                 | <i>1,000<br/>tons</i> | <i>1,000<br/>tons</i> | <i>1,000<br/>tons</i> | <i>1,000<br/>tons</i> | <i>1,000<br/>tons</i>  | <i>1,000<br/>tons</i>                | <i>1,000<br/>tons</i> | <i>1,000<br/>tons</i> | <i>1,000<br/>tons</i> | <i>1,000<br/>tons</i> | <i>1,000<br/>tons</i> |
| 1909.....                   | 4,205                                 | 1,940                 | 605                   | 7,130                 | 26,500                | 19,750                 | 3,920                                | 64,050                | 620                   | 20                    | 10                    | 650                   |
| 1910.....                   | 4,510                                 | 2,440                 | 570                   | 7,450                 | 30,856                | 21,240                 | 4,100                                | 71,166                | 750                   | 20                    | 10                    | 780                   |
| 1911.....                   | 4,120                                 | 1,470                 | 450                   | 6,840                 | 28,806                | 17,760                 | 3,620                                | 63,066                | 850                   | 40                    | 20                    | 910                   |
| 1912.....                   | 4,410                                 | 2,435                 | 510                   | 6,210                 | 31,250                | 22,520                 | 4,510                                | 71,845                | 1,060                 | 80                    | 30                    | 1,170                 |
| 1913.....                   | 2,820                                 | 1,420                 | 270                   | 6,880                 | 28,369                | 15,500                 | 2,770                                | 58,029                | 1,390                 | 140                   | 30                    | 1,560                 |
| 1914.....                   | 2,740                                 | 1,700                 | 200                   | 6,590                 | 31,294                | 15,720                 | 2,800                                | 61,044                | 1,710                 | 200                   | 40                    | 1,950                 |
| 1915.....                   | 3,965                                 | 3,890                 | 194                   | 6,285                 | 30,640                | 20,600                 | 3,470                                | 69,044                | 2,130                 | 160                   | 50                    | 2,340                 |
| 1916.....                   | 2,670                                 | 3,545                 | 115                   | 6,665                 | 27,307                | 15,430                 | 2,430                                | 58,162                | 2,550                 | 120                   | 60                    | 2,730                 |
| 1917.....                   | 4,280                                 | 3,220                 | 210                   | 7,240                 | 30,913                | 19,750                 | 2,870                                | 68,483                | 2,760                 | 160                   | 70                    | 2,990                 |
| 1918.....                   | 2,900                                 | 3,200                 | 100                   | 6,690                 | 28,752                | 16,840                 | 2,480                                | 60,962                | 2,980                 | 200                   | 70                    | 3,250                 |
| 1919.....                   | 4,410                                 | 3,320                 | 220                   | 6,860                 | 29,008                | 18,310                 | 2,440                                | 64,568                | 3,156                 | 290                   | 90                    | 3,536                 |
| 1920.....                   | 4,425                                 | 3,960                 | 300                   | 8,175                 | 31,790                | 18,670                 | 3,130                                | 70,450                | 3,390                 | 280                   | 80                    | 3,750                 |
| 1921.....                   | 4,925                                 | 3,955                 | 215                   | 8,125                 | 34,050                | 17,840                 | 2,365                                | 71,475                | 3,285                 | 260                   | 80                    | 3,625                 |
| 1922.....                   | 5,155                                 | 3,300                 | 160                   | 8,010                 | 33,860                | 15,575                 | 1,930                                | 67,990                | 3,200                 | 230                   | 80                    | 3,510                 |
| 1923.....                   | 5,550                                 | 2,990                 | 150                   | 8,700                 | 32,373                | 18,120                 | 2,140                                | 70,023                | 3,447                 | 250                   | 80                    | 3,777                 |
| 1924.....                   | 3,730                                 | 2,070                 | 130                   | 7,150                 | 26,921                | 13,300                 | 1,630                                | 54,931                | 2,919                 | 180                   | 70                    | 3,169                 |
| 1925.....                   | 5,250                                 | 3,720                 | 190                   | 9,310                 | 29,374                | 14,750                 | 2,140                                | 64,734                | 3,466                 | 210                   | 90                    | 3,766                 |
| 1926.....                   | 4,713                                 | 2,540                 | 220                   | 10,642                | 29,531                | 13,428                 | 2,215                                | 63,289                | 3,554                 | 250                   | 60                    | 3,864                 |
| 1927.....                   | 5,584                                 | 2,785                 | 290                   | 10,712                | 30,929                | 14,115                 | 2,435                                | 66,850                | 3,321                 | 210                   | 50                    | 3,581                 |
| 1928.....                   | 5,976                                 | 2,460                 | 205                   | 9,885                 | 28,760                | 13,133                 | 1,875                                | 62,294                | 3,459                 | 220                   | 70                    | 3,749                 |
| 1929.....                   | 3,745                                 | 3,275                 | 385                   | 9,735                 | 28,753                | 13,489                 | 1,835                                | 61,217                | 3,322                 | 210                   | 60                    | 3,592                 |
| 1930.....                   | 2,422                                 | 2,875                 | 140                   | 6,689                 | 24,833                | 10,863                 | 1,045                                | 48,867                | 3,300                 | 220                   | 70                    | 3,590                 |
| 1931.....                   | 3,646                                 | 4,620                 | 795                   | 9,411                 | 29,777                | 11,085                 | 1,175                                | 60,509                | 3,500                 | 205                   | 67                    | 3,772                 |
| 1932.....                   | 5,421                                 | 5,305                 | 825                   | 9,970                 | 33,720                | 12,325                 | 1,935                                | 69,501                | 3,707                 | 230                   | 60                    | 3,997                 |
| 1933.....                   | 4,541                                 | 3,720                 | 685                   | 8,719                 | 29,807                | 10,445                 | 1,335                                | 59,252                | 3,588                 | 220                   | 65                    | 3,873                 |
| 1934.....                   | 4,334                                 | 1,765                 | 170                   | 7,573                 | 16,965                | 9,150                  | 475                                  | 40,432                | 3,415                 | 180                   | 67                    | 3,662                 |
| 1935.....                   | 3,076                                 | 3,800                 | 680                   | 9,167                 | 20,984                | 12,215                 | 1,512                                | 51,434                | 3,959                 | 265                   | 80                    | 4,304                 |
| 1936.....                   | 2,883                                 | 1,990                 | 90                    | 6,870                 | 20,200                | 6,255                  | 390                                  | 38,678                | 3,560                 | 226                   | 76                    | 3,862                 |
| 1937.....                   | 3,468                                 | 4,052                 | 470                   | 7,177                 | 26,121                | 9,190                  | 1,320                                | 51,798                | 4,342                 | 320                   | 90                    | 4,752                 |
| 1938.....                   | 5,304                                 | 4,660                 | 695                   | 8,390                 | 27,176                | 7,025                  | 1,310                                | 54,560                | 3,870                 | 290                   | 80                    | 4,240                 |
| 1939.....                   | 6,081                                 | 4,885                 | 630                   | 8,130                 | 29,981                | 6,950                  | 1,450                                | 58,107                | 4,000                 | 290                   | 70                    | 4,360                 |
| 1940.....                   | 6,493                                 | 5,463                 | 601                   | 10,713                | 27,729                | 6,212                  | 1,514                                | 58,725                | 4,084                 | 330                   | 80                    | 4,494                 |
| 1941.....                   | 7,927                                 | 5,485                 | 675                   | 11,520                | 32,063                | 6,425                  | 1,615                                | 65,710                | 3,877                 | 322                   | 82                    | 4,281                 |
| 1942.....                   | 8,486                                 | 6,115                 | 760                   | 13,096                | 39,732                | 6,630                  | 2,185                                | 77,004                | 4,030                 | 345                   | 83                    | 4,458                 |
| 1943.....                   | 9,371                                 | 6,155                 | 695                   | 13,283                | 37,481                | 6,555                  | 2,295                                | 75,835                | 3,964                 | 369                   | 80                    | 4,413                 |
| 1944.....                   | 9,813                                 | 6,260                 | 740                   | 13,570                | 32,665                | 6,020                  | 2,175                                | 71,243                | 4,346                 | 400                   | 90                    | 4,836                 |
| 1945.....                   | 8,809                                 | 7,400                 | 665                   | 12,697                | 35,705                | 4,870                  | 1,995                                | 72,141                | 4,313                 | 390                   | 85                    | 4,788                 |
| 1946.....                   | 8,756                                 | 7,082                 | 595                   | 12,581                | 33,326                | 5,270                  | 2,000                                | 69,610                | 4,661                 | 415                   | 90                    | 5,166                 |
| 1947.....                   | 7,745                                 | 5,335                 | 525                   | 9,260                 | 29,969                | 4,425                  | 1,505                                | 58,767                | 4,142                 | 370                   | 80                    | 4,692                 |
| 1948.....                   | 8,642                                 | 7,570                 | 417                   | 12,786                | 30,920                | 3,977                  | 1,710                                | 66,022                | 4,957                 | 432                   | 87                    | 5,476                 |
| 1949.....                   | 9,353                                 | 7,485                 | 413                   | 15,397                | 34,865                | 3,661                  | 2,437                                | 73,611                | 5,048                 | 664                   | 36                    | 5,748                 |
| 1950.....                   | 8,486                                 | 9,365                 | 395                   | 12,545                | 36,165                | 2,890                  | 2,430                                | 72,276                | 4,604                 | 1,196                 | 42                    | 5,842                 |
| 1951.....                   | 8,620                                 | 11,551                | 490                   | 12,511                | 35,968                | 2,460                  | 2,520                                | 74,120                | 4,497                 | 1,074                 | 43                    | 5,614                 |
| 1952.....                   | 9,855                                 | 10,097                | 520                   | 13,825                | 27,251                | 2,330                  | 2,770                                | 66,648                | 5,065                 | 1,555                 | 46                    | 6,666                 |
| 1953.....                   | 9,777                                 | 9,618                 | 480                   | 14,439                | 29,400                | 1,885                  | 2,970                                | 68,569                | 5,672                 | 1,599                 | 46                    | 7,317                 |
| 1954.....                   | 8,731                                 | 9,702                 | 450                   | 11,325                | 29,523                | 1,525                  | 2,925                                | 64,181                | 6,117                 | 2,111                 | 43                    | 8,275                 |
| 1955.....                   | 9,176                                 | 10,945                | 415                   | 12,737                | 31,399                | 1,395                  | 2,825                                | 68,892                | 5,665                 | 1,785                 | 43                    | 7,493                 |
| 1956.....                   | 10,532                                | 11,170                | 425                   | 13,505                | 31,346                | 1,355                  | 2,940                                | 71,273                | 6,199                 | 1,944                 | 45                    | 8,188                 |

<sup>1</sup> Includes corn fed as grain, hogged or grazed off, or in formula feeds, but not corn in silage. Corn silage is considered a roughage in this report and corn in silage is therefore not included as a grain, but is shown separately. If corn in silage is added to corn excluding corn in silage, the total will agree with total corn fed as reported in Grain and Feed Statistics, AMS (44). Corn in silage was calculated by States by multiplying acreage harvested for silage by average yield of all corn. The silage figures before 1919 are rough estimates made by the author.

<sup>2</sup> Other livestock on farms and all livestock in cities.

TABLE 32.—Oats fed to different kinds of livestock, 1909-56<sup>1</sup>

| Year beginning<br>Oct. 1 | Principal livestock on farms |                   |                   |                   |                   |                     | Other live-<br>stock <sup>2</sup> | Total             |
|--------------------------|------------------------------|-------------------|-------------------|-------------------|-------------------|---------------------|-----------------------------------|-------------------|
|                          | Dairy<br>cattle              | Beef<br>cattle    | Sheep             | Poultry           | Hogs              | Horses and<br>mules |                                   |                   |
|                          | <i>1,000 tons</i>            | <i>1,000 tons</i> | <i>1,000 tons</i> | <i>1,000 tons</i> | <i>1,000 tons</i> | <i>1,000 tons</i>   | <i>1,000 tons</i>                 | <i>1,000 tons</i> |
| 1909.....                | 2,460                        | 420               | 280               | 1,610             | 2,370             | 6,440               | 420                               | 14,000            |
| 1910.....                | 2,800                        | 480               | 320               | 1,830             | 2,690             | 7,300               | 480                               | 15,900            |
| 1911.....                | 1,960                        | 400               | 270               | 1,720             | 2,240             | 6,210               | 400                               | 13,200            |
| 1912.....                | 3,290                        | 550               | 350               | 2,250             | 3,150             | 7,940               | 570                               | 18,100            |
| 1913.....                | 2,390                        | 490               | 320               | 2,090             | 2,730             | 7,590               | 490                               | 16,100            |
| 1914.....                | 2,070                        | 420               | 280               | 1,810             | 2,360             | 6,540               | 420                               | 13,900            |
| 1915.....                | 3,330                        | 570               | 370               | 2,230             | 3,140             | 8,290               | 570                               | 18,500            |
| 1916.....                | 2,350                        | 485               | 320               | 2,055             | 2,685             | 7,420               | 485                               | 15,800            |
| 1917.....                | 3,390                        | 570               | 380               | 2,250             | 3,360             | 8,080               | 570                               | 18,600            |
| 1918.....                | 3,290                        | 570               | 380               | 2,150             | 3,160             | 8,580               | 570                               | 18,700            |
| 1919.....                | 2,750                        | 480               | 320               | 2,010             | 2,680             | 7,080               | 480                               | 15,800            |
| 1920.....                | 3,500                        | 570               | 380               | 2,450             | 3,150             | 7,890               | 560                               | 18,500            |
| 1921.....                | 2,770                        | 480               | 320               | 2,200             | 2,670             | 6,780               | 480                               | 15,700            |
| 1922.....                | 2,820                        | 505               | 335               | 2,295             | 3,110             | 6,930               | 505                               | 16,500            |
| 1923.....                | 3,030                        | 540               | 360               | 2,650             | 3,300             | 7,180               | 540                               | 17,600            |
| 1924.....                | 3,690                        | 600               | 400               | 3,100             | 3,330             | 7,780               | 600                               | 19,500            |
| 1925.....                | 3,690                        | 600               | 530               | 3,290             | 3,210             | 7,380               | 600                               | 19,300            |
| 1926.....                | 2,900                        | 500               | 450               | 2,500             | 2,907             | 6,492               | 500                               | 16,249            |
| 1927.....                | 2,609                        | 600               | 400               | 2,300             | 3,000             | 6,550               | 450                               | 15,909            |
| 1928.....                | 2,740                        | 735               | 430               | 2,380             | 3,920             | 7,262               | 400                               | 17,867            |
| 1929.....                | 3,550                        | 320               | 340               | 2,875             | 2,011             | 6,526               | 310                               | 15,932            |
| 1930.....                | 2,700                        | 455               | 385               | 2,980             | 4,000             | 6,612               | 350                               | 17,482            |
| 1931.....                | 4,410                        | 690               | 195               | 2,370             | 2,855             | 4,940               | 335                               | 15,795            |
| 1932.....                | 4,330                        | 670               | 190               | 2,455             | 2,540             | 4,585               | 325                               | 15,095            |
| 1933.....                | 3,160                        | 385               | 110               | 1,700             | 1,975             | 2,050               | 185                               | 9,565             |
| 1934.....                | 2,220                        | 175               | 100               | 1,500             | 2,546             | 2,020               | 165                               | 8,726             |
| 1935.....                | 4,400                        | 425               | 380               | 2,440             | 3,057             | 4,300               | 300                               | 15,302            |
| 1936.....                | 3,730                        | 70                | 150               | 2,510             | 3,515             | 3,085               | 250                               | 13,310            |
| 1937.....                | 4,865                        | 325               | 480               | 2,280             | 4,083             | 3,800               | 300                               | 16,133            |
| 1938.....                | 4,366                        | 625               | 180               | 2,300             | 3,739             | 3,700               | 300                               | 15,210            |
| 1939.....                | 4,200                        | 550               | 150               | 2,415             | 3,612             | 2,970               | 280                               | 14,177            |
| 1940.....                | 5,145                        | 690               | 135               | 2,855             | 4,959             | 3,965               | 350                               | 18,099            |
| 1941.....                | 4,740                        | 645               | 125               | 3,350             | 4,312             | 3,260               | 330                               | 16,762            |
| 1942.....                | 5,400                        | 800               | 110               | 3,390             | 6,024             | 3,450               | 450                               | 19,624            |
| 1943.....                | 4,440                        | 700               | 100               | 3,510             | 4,866             | 3,170               | 410                               | 17,196            |
| 1944.....                | 4,944                        | 700               | 90                | 3,720             | 4,083             | 2,970               | 410                               | 16,917            |
| 1945.....                | 6,190                        | 980               | 130               | 4,200             | 7,919             | 3,600               | 570                               | 23,589            |
| 1946.....                | 5,990                        | 810               | 105               | 3,730             | 5,815             | 2,350               | 470                               | 19,270            |
| 1947.....                | 5,660                        | 530               | 95                | 3,786             | 5,145             | 1,810               | 370                               | 17,396            |
| 1948.....                | 5,690                        | 840               | 110               | 4,220             | 6,799             | 1,600               | 490                               | 19,749            |
| 1949.....                | 5,216                        | 786               | 100               | 3,922             | 6,041             | 1,329               | 457                               | 17,851            |
| 1950.....                | 5,625                        | 850               | 100               | 4,230             | 6,559             | 1,430               | 490                               | 19,284            |
| 1951.....                | 5,630                        | 920               | 100               | 4,180             | 7,007             | 1,250               | 500                               | 19,587            |
| 1952.....                | 5,270                        | 840               | 90                | 3,800             | 6,349             | 1,030               | 560                               | 17,939            |
| 1953.....                | 5,280                        | 850               | 100               | 3,800             | 6,178             | 1,000               | 560                               | 17,768            |
| 1954.....                | 6,050                        | 1,070             | 110               | 4,100             | 7,064             | 950                 | 600                               | 19,944            |
| 1955.....                | 6,012                        | 1,105             | 115               | 4,220             | 7,108             | 950                 | 620                               | 20,130            |
| 1956.....                | 5,100                        | 935               | 100               | 3,585             | 6,346             | 750                 | 520                               | 17,336            |

<sup>1</sup> Includes oats fed as grain or in mixed or formula feeds.

<sup>2</sup> Other livestock on farms and all livestock in cities.

TABLE 33.—All grain fed to different kinds of livestock, 1909–56 <sup>1</sup>

| Year beginning<br>Oct. 1 | Principal livestock on farms |                   |                   |                   |                   |                     | Other live-<br>stock <sup>2</sup> | Total   |
|--------------------------|------------------------------|-------------------|-------------------|-------------------|-------------------|---------------------|-----------------------------------|---------|
|                          | Dairy<br>cattle              | Beef<br>cattle    | Sheep             | Poultry           | Hogs              | Horses and<br>mules |                                   |         |
|                          | <i>1,000 tons</i>            | <i>1,000 tons</i> | <i>1,000 tons</i> | <i>1,000 tons</i> | <i>1,000 tons</i> | <i>1,000 tons</i>   | <i>1,000 tons</i>                 |         |
| 1909                     | 7,225                        | 2,580             | 975               | 9,550             | 30,250            | 26,440              | 4,430                             | 81,450  |
| 1910                     | 7,790                        | 3,110             | 970               | 9,980             | 34,706            | 28,750              | 4,660                             | 89,966  |
| 1911                     | 6,690                        | 2,130             | 830               | 9,540             | 32,766            | 24,270              | 4,140                             | 80,366  |
| 1912                     | 8,540                        | 3,325             | 1,010             | 9,680             | 36,430            | 30,830              | 5,230                             | 95,045  |
| 1913                     | 5,780                        | 2,150             | 690               | 9,890             | 32,679            | 23,370              | 3,370                             | 77,929  |
| 1914                     | 5,530                        | 2,420             | 610               | 9,560             | 35,654            | 22,610              | 3,360                             | 79,744  |
| 1915                     | 8,385                        | 4,900             | 754               | 10,085            | 36,330            | 29,360              | 4,230                             | 94,044  |
| 1916                     | 5,690                        | 4,300             | 550               | 9,690             | 31,562            | 23,140              | 3,030                             | 77,962  |
| 1917                     | 8,540                        | 4,140             | 740               | 10,750            | 36,313            | 28,210              | 3,590                             | 92,283  |
| 1918                     | 7,360                        | 4,240             | 680               | 10,550            | 34,642            | 25,940              | 3,250                             | 86,662  |
| 1919                     | 8,110                        | 4,180             | 700               | 10,260            | 33,928            | 25,810              | 3,080                             | 86,068  |
| 1920                     | 8,920                        | 4,930             | 850               | 12,090            | 37,300            | 27,000              | 3,860                             | 94,950  |
| 1921                     | 8,610                        | 4,800             | 690               | 11,670            | 38,880            | 25,025              | 3,000                             | 92,675  |
| 1922                     | 8,940                        | 4,190             | 660               | 11,720            | 39,250            | 22,930              | 2,600                             | 90,290  |
| 1923                     | 9,780                        | 4,000             | 710               | 13,080            | 38,453            | 25,820              | 2,880                             | 94,293  |
| 1924                     | 8,490                        | 3,090             | 710               | 11,790            | 32,701            | 21,540              | 2,410                             | 80,731  |
| 1925                     | 9,920                        | 4,700             | 880               | 14,000            | 34,784            | 22,550              | 2,900                             | 89,734  |
| 1926                     | 8,698                        | 3,465             | 830               | 14,697            | 34,930            | 20,385              | 2,890                             | 92,675  |
| 1927                     | 9,634                        | 3,850             | 925               | 15,102            | 37,002            | 21,090              | 3,105                             | 90,708  |
| 1928                     | 10,306                       | 3,680             | 970               | 14,635            | 36,527            | 20,930              | 2,530                             | 89,578  |
| 1929                     | 9,105                        | 4,050             | 1,050             | 15,675            | 34,628            | 20,405              | 2,460                             | 87,373  |
| 1930                     | 7,691                        | 3,805             | 850               | 13,984            | 32,575            | 17,865              | 1,805                             | 78,575  |
| 1931                     | 10,408                       | 5,760             | 1,175             | 15,930            | 35,933            | 16,380              | 1,870                             | 87,456  |
| 1932                     | 11,477                       | 6,425             | 1,215             | 16,015            | 39,541            | 17,265              | 2,580                             | 94,518  |
| 1933                     | 8,961                        | 4,335             | 865               | 13,144            | 33,657            | 12,680              | 1,735                             | 75,377  |
| 1934                     | 7,689                        | 2,100             | 335               | 11,418            | 21,446            | 11,300              | 850                               | 55,138  |
| 1935                     | 9,581                        | 4,570             | 1,185             | 14,972            | 26,704            | 16,770              | 2,097                             | 75,879  |
| 1936                     | 7,853                        | 2,235             | 320               | 11,285            | 25,361            | 9,495               | 805                               | 57,354  |
| 1937                     | 10,442                       | 4,752             | 1,075             | 13,867            | 32,694            | 13,275              | 1,950                             | 78,055  |
| 1938                     | 11,570                       | 5,695             | 1,035             | 15,100            | 33,523            | 11,035              | 1,945                             | 79,903  |
| 1939                     | 12,331                       | 5,820             | 945               | 15,095            | 36,452            | 10,165              | 2,025                             | 82,833  |
| 1940                     | 13,738                       | 6,738             | 936               | 17,208            | 35,870            | 10,632              | 2,114                             | 87,236  |
| 1941                     | 15,327                       | 6,805             | 1,030             | 20,510            | 41,347            | 10,320              | 2,410                             | 97,749  |
| 1942                     | 16,891                       | 7,785             | 1,065             | 24,701            | 55,345            | 10,695              | 3,155                             | 119,637 |
| 1943                     | 16,751                       | 7,565             | 965               | 24,263            | 53,180            | 10,220              | 3,230                             | 116,174 |
| 1944                     | 16,872                       | 7,660             | 960               | 24,400            | 42,783            | 9,360               | 2,980                             | 105,015 |
| 1945                     | 16,639                       | 8,900             | 910               | 23,388            | 48,221            | 8,770               | 2,895                             | 109,723 |
| 1946                     | 16,071                       | 8,187             | 785               | 21,241            | 41,126            | 7,730               | 2,685                             | 97,825  |
| 1947                     | 14,798                       | 6,190             | 710               | 19,601            | 37,028            | 6,315               | 2,130                             | 86,772  |
| 1948                     | 15,782                       | 8,755             | 632               | 21,520            | 39,546            | 5,667               | 2,420                             | 94,322  |
| 1949                     | 15,880                       | 8,574             | 601               | 23,886            | 42,550            | 5,061               | 3,109                             | 99,661  |
| 1950                     | 15,631                       | 10,620            | 585               | 22,935            | 44,781            | 4,410               | 3,180                             | 102,142 |
| 1951                     | 15,580                       | 12,861            | 675               | 22,405            | 45,165            | 3,770               | 3,260                             | 103,716 |
| 1952                     | 16,190                       | 11,257            | 685               | 22,037            | 35,309            | 3,400               | 3,545                             | 92,423  |
| 1953                     | 16,267                       | 10,833            | 670               | 22,848            | 37,663            | 2,925               | 3,770                             | 94,976  |
| 1954                     | 16,362                       | 11,322            | 680               | 21,003            | 38,902            | 2,510               | 3,825                             | 94,694  |
| 1955                     | 16,927                       | 12,725            | 665               | 22,798            | 41,226            | 2,380               | 3,795                             | 100,516 |
| 1956                     | 17,297                       | 12,750            | 655               | 22,772            | 40,741            | 2,140               | 3,800                             | 100,155 |

<sup>1</sup> Corn, excluding corn in silage, oats, barley, sorghum grains, wheat, and rye. Includes grain fed as such, hogged off, or in mixed or formula feeds.

<sup>2</sup> Other livestock on farms and all livestock in cities.

TABLE 34.—*Barley fed to different kinds of livestock, 1926-56*<sup>1</sup>

| Year beginning<br>Oct. 1 | Principal livestock on farms |                   |                   |                   |                   |                        | Other live-<br>stock <sup>2</sup> | Total             |
|--------------------------|------------------------------|-------------------|-------------------|-------------------|-------------------|------------------------|-----------------------------------|-------------------|
|                          | Dairy<br>cattle              | Beef<br>cattle    | Sheep             | Poultry           | Hogs              | Horses<br>and<br>mules |                                   |                   |
|                          | <i>1,000 tons</i>            | <i>1,000 tons</i> | <i>1,000 tons</i> | <i>1,000 tons</i> | <i>1,000 tons</i> | <i>1,000 tons</i>      | <i>1,000 tons</i>                 | <i>1,000 tons</i> |
| 1926                     | 850                          | 190               | 150               | 300               | 1,308             | 120                    | 60                                | 2,978             |
| 1927                     | 1,155                        | 255               | 200               | 450               | 1,691             | 160                    | 80                                | 3,991             |
| 1928                     | 1,140                        | 310               | 310               | 610               | 2,629             | 270                    | 145                               | 5,414             |
| 1929                     | 1,140                        | 310               | 310               | 695               | 2,546             | 270                    | 145                               | 5,416             |
| 1930                     | 1,540                        | 310               | 310               | 895               | 2,042             | 270                    | 145                               | 5,512             |
| 1931                     | 1,167                        | 235               | 160               | 680               | 1,655             | 180                    | 110                               | 4,187             |
| 1932                     | 1,136                        | 265               | 180               | 770               | 1,810             | 200                    | 125                               | 4,486             |
| 1933                     | 845                          | 75                | 50                | 215               | 503               | 55                     | 35                                | 1,778             |
| 1934                     | 840                          | 65                | 60                | 305               | 741               | 65                     | 40                                | 2,116             |
| 1935                     | 1,625                        | 165               | 105               | 455               | 1,173             | 115                    | 75                                | 3,713             |
| 1936                     | 1,015                        | 85                | 70                | 375               | 853               | 80                     | 50                                | 2,528             |
| 1937                     | 1,539                        | 155               | 100               | 525               | 1,015             | 110                    | 70                                | 3,514             |
| 1938                     | 1,390                        | 210               | 135               | 720               | 1,381             | 150                    | 95                                | 4,081             |
| 1939                     | 1,600                        | 240               | 145               | 900               | 1,707             | 125                    | 115                               | 4,832             |
| 1940                     | 1,695                        | 255               | 165               | 720               | 2,305             | 215                    | 125                               | 5,480             |
| 1941                     | 1,865                        | 290               | 185               | 730               | 2,816             | 225                    | 145                               | 6,256             |
| 1942                     | 1,810                        | 465               | 185               | 945               | 3,313             | 205                    | 200                               | 7,123             |
| 1943                     | 1,660                        | 300               | 160               | 995               | 2,640             | 190                    | 175                               | 6,120             |
| 1944                     | 1,150                        | 295               | 120               | 890               | 1,691             | 165                    | 130                               | 4,441             |
| 1945                     | 955                          | 265               | 110               | 790               | 1,692             | 160                    | 120                               | 4,092             |
| 1946                     | 820                          | 185               | 80                | 645               | 1,113             | 40                     | 90                                | 2,973             |
| 1947                     | 890                          | 205               | 85                | 765               | 1,130             | 40                     | 95                                | 3,210             |
| 1948                     | 1,030                        | 235               | 100               | 1,000             | 1,148             | 45                     | 110                               | 3,668             |
| 1949                     | 886                          | 203               | 86                | 863               | 1,006             | 38                     | 96                                | 3,178             |
| 1950                     | 880                          | 200               | 85                | 850               | 1,309             | 30                     | 100                               | 3,454             |
| 1951                     | 790                          | 220               | 85                | 850               | 1,507             | 20                     | 100                               | 3,572             |
| 1952                     | 700                          | 195               | 75                | 750               | 1,238             | 15                     | 110                               | 3,083             |
| 1953                     | 840                          | 240               | 90                | 900               | 1,610             | 15                     | 130                               | 3,825             |
| 1954                     | 1,100                        | 370               | 120               | 1,030             | 1,827             | 10                     | 170                               | 4,627             |
| 1955                     | 1,174                        | 465               | 135               | 1,150             | 1,994             | 10                     | 200                               | 5,128             |
| 1956                     | 1,055                        | 415               | 130               | 820               | 2,042             | 10                     | 180                               | 4,652             |

<sup>1</sup> Includes barley fed as grain or in mixed or formula feeds.

<sup>2</sup> Other livestock on farms and all livestock in cities.



TABLE 35.—Sorghum grains and wheat and rye fed to different kinds of livestock, 1926-56 1

| Year beginning Oct. 1 | Sorghum grains               |             |       |         |                |                    |                              |             |       |         | Wheat and rye  |                    |       |        |        |  | Total |
|-----------------------|------------------------------|-------------|-------|---------|----------------|--------------------|------------------------------|-------------|-------|---------|----------------|--------------------|-------|--------|--------|--|-------|
|                       | Principal livestock on farms |             |       |         |                | Other live-stock 2 | Principal livestock on farms |             |       |         |                | Other live-stock 2 |       |        |        |  |       |
|                       | Dairy cattle                 | Beef cattle | Sheep | Poultry | Hogs and mules |                    | Dairy cattle                 | Beef cattle | Sheep | Poultry | Hogs and mules |                    |       |        |        |  |       |
| 1926                  | 100                          | 210         | 30    | 505     | 788            | 35                 | 1,003                        | 25          | 750   | 10      | 386            | 80                 | 1,000 | 1,000  | 1,396  |  |       |
| 1927                  | 115                          | 175         | 35    | 700     | 947            | 40                 | 2,262                        | 171         | 940   | 15      | 435            | 100                | 1,000 | 1,696  | 1,902  |  |       |
| 1928                  | 125                          | 140         | 25    | 810     | 721            | 30                 | 2,101                        | 325         | 950   | 15      | 497            | 80                 | 1,000 | 3,448  | 3,448  |  |       |
| 1929                  | 105                          | 85          | 1.5   | 590     | 455            | 20                 | 1,360                        | 565         | 1,780 | 30      | 863            | 150                | 1,000 | 5,754  | 5,754  |  |       |
| 1930                  | 85                           | 65          | 15    | 460     | 250            | 15                 | 960                          | 944         | 2,960 | 50      | 450            | 250                | 1,000 | 5,210  | 5,210  |  |       |
| 1931                  | 155                          | 125         | 25    | 880     | 410            | 130                | 1,755                        | 1,030       | 1,990 | 35      | 921            | 170                | 1,000 | 3,636  | 3,636  |  |       |
| 1932                  | 140                          | 115         | 20    | 880     | 550            | 120                | 1,800                        | 950         | 1,830 | 30      | 948            | 155                | 1,000 | 3,818  | 3,818  |  |       |
| 1933                  | 120                          | 95          | 20    | 680     | 424            | 25                 | 1,464                        | 295         | 1,830 | 30      | 948            | 155                | 1,000 | 3,392  | 3,392  |  |       |
| 1934                  | 30                           | 30          | 5     | 225     | 137            | 35                 | 1,472                        | 265         | 1,815 | 30      | 1,057          | 100                | 1,000 | 3,870  | 3,870  |  |       |
| 1935                  | 125                          | 105         | 20    | 735     | 440            | 105                | 3,560                        | 355         | 2,175 | 35      | 1,050          | 180                | 1,000 | 2,042  | 2,042  |  |       |
| 1936                  | 55                           | 50          | 10    | 385     | 221            | 55                 | 796                          | 170         | 1,145 | 20      | 572            | 95                 | 1,000 | 4,732  | 4,732  |  |       |
| 1937                  | 155                          | 130         | 25    | 905     | 493            | 130                | 4,878                        | 415         | 2,980 | 45      | 982            | 220                | 1,000 | 4,244  | 4,244  |  |       |
| 1938                  | 150                          | 120         | 25    | 860     | 493            | 120                | 4,808                        | 360         | 2,830 | 40      | 734            | 200                | 1,000 | 4,310  | 4,310  |  |       |
| 1939                  | 130                          | 80          | 20    | 710     | 357            | 80                 | 3,407                        | 320         | 2,940 | 40      | 795            | 150                | 1,000 | 2,604  | 2,604  |  |       |
| 1940                  | 215                          | 290         | 35    | 960     | 578            | 200                | 2,328                        | 190         | 1,960 | 40      | 299            | 75                 | 1,000 | 5,922  | 5,922  |  |       |
| 1941                  | 390                          | 320         | 45    | 1,180   | 769            | 330                | 3,099                        | 405         | 3,387 | 80      | 387            | 250                | 1,000 | 12,906 | 12,906 |  |       |
| 1942                  | 270                          | 310         | 10    | 1,320   | 660            | 340                | 2,980                        | 925         | 5,616 | 70      | 616            | 285                | 1,000 | 14,312 | 14,312 |  |       |
| 1943                  | 250                          | 300         | 10    | 1,270   | 591            | 225                | 2,711                        | 1,030       | 5,205 | 80      | 285            | 175                | 1,000 | 8,792  | 8,792  |  |       |
| 1944                  | 335                          | 385         | 10    | 1,770   | 927            | 155                | 3,622                        | 630         | 4,450 | 50      | 3,417          | 150                | 1,000 | 7,546  | 7,546  |  |       |
| 1945                  | 220                          | 190         | 5     | 1,190   | 590            | 100                | 2,355                        | 485         | 4,511 | 40      | 315            | 75                 | 1,000 | 3,862  | 3,862  |  |       |
| 1946                  | 220                          | 80          | 5     | 1,145   | 540            | 70                 | 2,110                        | 285         | 3,140 | 382     | -----          | 110                | 1,000 | 3,368  | 3,368  |  |       |
| 1947                  | 190                          | 70          | 5     | 1,160   | 316            | 40                 | 1,831                        | 310         | 4,680 | 468     | -----          | 55                 | 1,000 | 2,802  | 2,802  |  |       |
| 1948                  | 220                          | 80          | 5     | 1,207   | 469            | 45                 | 2,081                        | 200         | 2,307 | 210     | -----          | 74                 | 1,000 | 3,254  | 3,254  |  |       |
| 1949                  | 189                          | 80          | 2     | 1,064   | 384            | 33                 | 1,787                        | 236         | 2,640 | 254     | -----          | 60                 | 1,000 | 3,168  | 3,168  |  |       |
| 1950                  | 430                          | 175         | 5     | 2,730   | 460            | 60                 | 3,960                        | 210         | 2,580 | 288     | -----          | 60                 | 1,000 | 3,224  | 3,224  |  |       |
| 1951                  | 350                          | 140         | ----- | 2,190   | 413            | 40                 | 3,213                        | 190         | 2,674 | 270     | -----          | 50                 | 1,000 | 2,596  | 2,596  |  |       |
| 1952                  | 235                          | 95          | ----- | 1,472   | 275            | 25                 | 2,157                        | 130         | 2,190 | 196     | -----          | 45                 | 1,000 | 2,624  | 2,624  |  |       |
| 1953                  | 235                          | 95          | ----- | 1,515   | 265            | 25                 | 2,190                        | 135         | 2,194 | 210     | -----          | 55                 | 1,000 | 2,474  | 2,474  |  |       |
| 1954                  | 371                          | 150         | ----- | 2,434   | 403            | 25                 | 3,468                        | 110         | 2,114 | 175     | -----          | 50                 | 1,000 | 1,902  | 1,902  |  |       |
| 1955                  | 445                          | 180         | ----- | 3,179   | 535            | 25                 | 4,464                        | 120         | 1,514 | 190     | -----          | 50                 | 1,000 | 2,024  | 2,024  |  |       |
| 1956                  | 480                          | 200         | ----- | 3,348   | 707            | 25                 | 4,870                        | 130         | 1,514 | 300     | -----          | 50                 | 1,000 | 2,024  | 2,024  |  |       |

1 Includes grains fed as such or in mixed or formula feeds.

2 Other livestock on farms and all livestock in cities.

| Year beginning<br>Oct. 1 | Oilseed meals <sup>2</sup>   |                |               |               |               | Animal proteins <sup>4</sup> |                        |                     | Grain proteins <sup>5</sup>          |               |                              |                                      |                 |                                |                                      |               |
|--------------------------|------------------------------|----------------|---------------|---------------|---------------|------------------------------|------------------------|---------------------|--------------------------------------|---------------|------------------------------|--------------------------------------|-----------------|--------------------------------|--------------------------------------|---------------|
|                          | Principal livestock on farms |                |               |               |               | Total                        | Poultry<br>on<br>farms | Hogs<br>on<br>farms | Other<br>live-<br>stock <sup>3</sup> | Total         | Principal livestock on farms |                                      |                 |                                | Other<br>live-<br>stock <sup>3</sup> | Total         |
|                          | Dairy<br>cattle              | Beef<br>cattle | Sheep         | Poultry       | Hogs          |                              |                        |                     |                                      |               | Horses<br>and<br>mules       | Other<br>live-<br>stock <sup>3</sup> | Dairy<br>cattle | Beef<br>cattle<br>and<br>sheep |                                      |               |
| 1,000<br>tons            | 1,000<br>tons                | 1,000<br>tons  | 1,000<br>tons | 1,000<br>tons | 1,000<br>tons | 1,000<br>tons                | 1,000<br>tons          | 1,000<br>tons       | 1,000<br>tons                        | 1,000<br>tons | 1,000<br>tons                | 1,000<br>tons                        | 1,000<br>tons   | 1,000<br>tons                  | 1,000<br>tons                        | 1,000<br>tons |
| 1926                     | 983                          | 715            | 85            | 280           | 510           | 30                           | 100                    | 2,703               | 70                                   | 805           | 626                          | 95                                   | 30              | 751                            |                                      |               |
| 1927                     | 815                          | 605            | 90            | 205           | 433           | 30                           | 80                     | 2,258               | 70                                   | 845           | 654                          | 105                                  | 35              | 794                            |                                      |               |
| 1928                     | 1,020                        | 690            | 100           | 230           | 440           | 20                           | 80                     | 2,580               | 60                                   | 868           | 615                          | 140                                  | 20              | 775                            |                                      |               |
| 1929                     | 1,175                        | 615            | 100           | 280           | 372           | 20                           | 80                     | 2,642               | 60                                   | 876           | 575                          | 130                                  | 20              | 725                            |                                      |               |
| 1930                     | 1,070                        | 530            | 90            | 295           | 312           | 20                           | 75                     | 2,392               | 60                                   | 851           | 464                          | 111                                  | 15              | 590                            |                                      |               |
| 1931                     | 987                          | 495            | 60            | 265           | 269           | 20                           | 70                     | 2,166               | 60                                   | 817           | 500                          | 100                                  | 15              | 615                            |                                      |               |
| 1932                     | 952                          | 480            | 60            | 250           | 270           | 15                           | 80                     | 2,107               | 65                                   | 880           | 505                          | 110                                  | 15              | 630                            |                                      |               |
| 1933                     | 940                          | 580            | 70            | 180           | 204           | 15                           | 80                     | 2,069               | 430                                  | 70            | 925                          | 115                                  | 15              | 788                            |                                      |               |
| 1934                     | 777                          | 610            | 90            | 235           | 355           | 15                           | 70                     | 2,152               | 60                                   | 871           | 573                          | 100                                  | 15              | 718                            |                                      |               |
| 1935                     | 1,251                        | 530            | 90            | 470           | 316           | 15                           | 100                    | 2,772               | 405                                  | 518           | 771                          | 135                                  | 18              | 924                            |                                      |               |
| 1936                     | 1,150                        | 680            | 100           | 560           | 498           | 20                           | 100                    | 3,108               | 445                                  | 523           | 702                          | 130                                  | 20              | 892                            |                                      |               |
| 1937                     | 1,150                        | 678            | 100           | 763           | 566           | 20                           | 120                    | 3,397               | 385                                  | 509           | 670                          | 130                                  | 20              | 820                            |                                      |               |
| 1938                     | 1,144                        | 655            | 100           | 915           | 481           | 20                           | 125                    | 3,440               | 415                                  | 563           | 701                          | 150                                  | 20              | 871                            |                                      |               |
| 1939                     | 1,153                        | 670            | 100           | 935           | 641           | 20                           | 130                    | 3,649               | 415                                  | 636           | 775                          | 110                                  | 20              | 905                            |                                      |               |
| 1940                     | 1,215                        | 845            | 105           | 1,215         | 830           | 30                           | 165                    | 4,405               | 510                                  | 645           | 925                          | 135                                  | 10              | 1,120                          |                                      |               |
| 1941                     | 1,059                        | 910            | 110           | 1,450         | 895           | 30                           | 185                    | 4,639               | 435                                  | 677           | 1,329                        | 14                                   | 20              | 1,548                          |                                      |               |
| 1942                     | 1,299                        | 835            | 110           | 1,935         | 1,660         | 30                           | 220                    | 6,089               | 334                                  | 780           | 1,174                        | 17                                   | 18              | 1,578                          |                                      |               |
| 1943                     | 1,580                        | 1,060          | 100           | 1,905         | 1,345         | 30                           | 235                    | 6,255               | 350                                  | 862           | 70                           | 20                                   | 40              | 1,575                          |                                      |               |
| 1944                     | 1,672                        | 970            | 90            | 2,045         | 1,190         | 30                           | 215                    | 6,212               | 490                                  | 575           | 1,125                        | 50                                   | 10              | 1,769                          |                                      |               |
| 1945                     | 1,905                        | 1,075          | 85            | 1,990         | 935           | 20                           | 200                    | 8,107               | 315                                  | 693           | 1,058                        | 100                                  | 25              | 1,395                          |                                      |               |
| 1946                     | 1,210                        | 1,000          | 75            | 1,885         | 1,423         | 15                           | 220                    | 5,837               | 285                                  | 627           | 1,082                        | 55                                   | 25              | 1,736                          |                                      |               |
| 1947                     | 1,486                        | 1,040          | 70            | 2,049         | 1,331         | 10                           | 255                    | 6,211               | 435                                  | 660           | 1,149                        | 35                                   | 20              | 1,434                          |                                      |               |
| 1948                     | 1,610                        | 1,253          | 65            | 2,300         | 1,528         | 10                           | 330                    | 7,310               | 520                                  | 682           | 1,252                        | 47                                   | 20              | 1,433                          |                                      |               |
| 1949                     | 1,411                        | 1,452          | 64            | 2,326         | 1,673         | 9                            | 332                    | 7,867               | 300                                  | 722           | 1,281                        | 50                                   | 29              | 1,501                          |                                      |               |
| 1950                     | 1,069                        | 1,660          | 65            | 3,305         | 2,090         | 10                           | 460                    | 8,659               | 490                                  | 764           | 1,314                        | 60                                   | 30              | 1,949                          |                                      |               |
| 1951                     | 1,470                        | 1,940          | 70            | 3,220         | 1,830         | 5                            | 585                    | 9,150               | 480                                  | 949           | 1,494                        | 45                                   | 25              | 1,473                          |                                      |               |
| 1952                     | 1,685                        | 1,825          | 70            | 3,195         | 1,741         | 5                            | 400                    | 8,916               | 660                                  | 797           | 1,537                        | 45                                   | 25              | 1,365                          |                                      |               |
| 1953                     | 1,600                        | 1,860          | 75            | 3,000         | 1,671         | 5                            | 380                    | 8,075               | 820                                  | 991           | 1,911                        | 45                                   | 25              | 1,473                          |                                      |               |
| 1954                     | 1,450                        | 1,920          | 75            | 3,085         | 1,601         | 5                            | 390                    | 8,321               | 645                                  | 908           | 1,658                        | 45                                   | 50              | 1,523                          |                                      |               |
| 1955                     | 1,320                        | 1,985          | 75            | 3,485         | 1,698         | 5                            | 415                    | 9,178               | 785                                  | 909           | 1,779                        | 50                                   | 32              | 1,604                          |                                      |               |
| 1956                     | 1,659                        | 2,125          | 70            | 3,770         | 1,959         | 5                            | 440                    | 10,023              | 710                                  | 850           | 1,630                        | 50                                   | 40              | 1,588                          |                                      |               |

<sup>1</sup> Feeds fed as such or in mixed or formula feeds.  
<sup>2</sup> Includes cottonseed meal, soybean meal, linseed meal, peanut oil meal, and copra or coconut meal.  
<sup>3</sup> Other livestock on farms and all livestock in cities.  
<sup>4</sup> Includes tankage, meat scraps, fishmeal, and dried milk products. Does not include milk or skim milk fed as liquids.  
<sup>5</sup> Includes gluten feed and meal, brewers' dried grains, and distillers' dried grains.

TABLE 37.—Commercial high-protein feeds as a percentage of all concentrates fed to different kinds of livestock, 1926-56 <sup>1</sup>

| Year beginning Oct. 1 | Dairy cattle   | Beef cattle    | Sheep          | Poultry        | Hogs           | All livestock  |
|-----------------------|----------------|----------------|----------------|----------------|----------------|----------------|
|                       | <i>Percent</i> | <i>Percent</i> | <i>Percent</i> | <i>Percent</i> | <i>Percent</i> | <i>Percent</i> |
| 1926.....             | 12.9           | 15.0           | 8.6            | 3.5            | 2.7            | 4.4            |
| 1927.....             | 10.8           | 12.0           | 8.5            | 3.3            | 2.4            | 3.8            |
| 1928.....             | 11.3           | 14.0           | 8.8            | 3.7            | 2.5            | 4.2            |
| 1929.....             | 12.8           | 12.0           | 8.3            | 3.8            | 2.4            | 4.3            |
| 1930.....             | 12.6           | 11.0           | 9.0            | 3.8            | 2.5            | 4.3            |
| 1931.....             | 9.6            | 7.5            | 4.6            | 3.6            | 1.9            | 3.7            |
| 1932.....             | 9.0            | 6.6            | 4.5            | 3.8            | 1.8            | 3.4            |
| 1933.....             | 11.5           | 11.0           | 7.0            | 4.4            | 1.8            | 4.4            |
| 1934.....             | 10.8           | 21.8           | 18.4           | 4.8            | 3.6            | 5.7            |
| 1935.....             | 13.6           | 9.6            | 6.7            | 5.4            | 3.0            | 5.3            |
| 1936.....             | 14.1           | 22.5           | 20.6           | 7.5            | 3.8            | 7.2            |
| 1937.....             | 11.8           | 11.6           | 8.1            | 7.2            | 3.1            | 5.7            |
| 1938.....             | 11.1           | 9.7            | 8.3            | 7.6            | 3.0            | 5.8            |
| 1939.....             | 11.2           | 9.7            | 8.8            | 7.5            | 3.3            | 5.9            |
| 1940.....             | 11.5           | 10.9           | 9.2            | 8.3            | 3.9            | 6.6            |
| 1941.....             | 11.7           | 11.7           | 8.9            | 7.8            | 3.7            | 6.5            |
| 1942.....             | 11.8           | 9.7            | 8.8            | 8.1            | 4.2            | 6.5            |
| 1943.....             | 13.0           | 12.2           | 8.8            | 8.1            | 4.0            | 6.9            |
| 1944.....             | 13.9           | 11.2           | 8.0            | 8.7            | 3.9            | 7.4            |
| 1945.....             | 12.3           | 10.5           | 8.0            | 8.2            | 3.3            | 6.6            |
| 1946.....             | 12.4           | 10.8           | 8.1            | 8.7            | 4.7            | 7.4            |
| 1947.....             | 13.2           | 13.8           | 8.2            | 10.0           | 5.0            | 8.4            |
| 1948.....             | 13.0           | 12.1           | 8.6            | 11.1           | 5.2            | 8.8            |
| 1949.....             | 12.4           | 13.9           | 9.0            | 11.3           | 5.3            | 8.9            |
| 1950.....             | 12.7           | 13.1           | 9.2            | 13.0           | 5.9            | 9.7            |
| 1951.....             | 12.1           | 12.6           | 8.5            | 13.0           | 5.7            | 9.7            |
| 1952.....             | 12.4           | 13.0           | 8.4            | 13.7           | 6.6            | 10.4           |
| 1953.....             | 12.4           | 13.3           | 9.0            | 13.4           | 6.5            | 10.3           |
| 1954.....             | 11.8           | 13.0           | 8.8            | 13.7           | 6.0            | 10.0           |
| 1955.....             | 12.1           | 12.5           | 9.0            | 14.5           | 5.9            | 10.2           |
| 1956.....             | 12.3           | 13.2           | 8.6            | 15.1           | 6.4            | 10.7           |

<sup>1</sup> Includes oilmeals, animal proteins, brewers' and distillers' grains, and gluten feed and meal. Does not include milk, skim milk, or buttermilk fed as liquids.

TABLE 38.—Consumption of commercial high-protein feeds, by kinds of livestock, 1926-56<sup>1</sup>

| Year beginning Oct. 1 | Dairy cattle      | Beef cattle       | Sheep             | Poultry           | Hogs              | Horses and mules  | Other livestock   | Total             |
|-----------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
|                       | <i>1,000 tons</i> | <i>1,000 tons</i> | <i>1,000 tons</i> | <i>1,000 tons</i> | <i>1,000 tons</i> | <i>1,000 tons</i> | <i>1,000 tons</i> | <i>1,000 tons</i> |
| 1926.....             | 1,609             | 715               | 85                | 613               | 1,007             | 30                | 200               | 4,259             |
| 1927.....             | 1,469             | 605               | 90                | 588               | 933               | 30                | 185               | 3,900             |
| 1928.....             | 1,635             | 690               | 100               | 660               | 958               | 20                | 160               | 4,223             |
| 1929.....             | 1,750             | 615               | 100               | 715               | 883               | 20                | 160               | 4,243             |
| 1930.....             | 1,534             | 530               | 90                | 646               | 863               | 20                | 150               | 3,833             |
| 1931.....             | 1,487             | 495               | 60                | 680               | 711               | 20                | 145               | 3,598             |
| 1932.....             | 1,457             | 480               | 60                | 730               | 715               | 15                | 160               | 3,617             |
| 1933.....             | 1,598             | 580               | 70                | 720               | 634               | 15                | 165               | 3,782             |
| 1934.....             | 1,350             | 640               | 90                | 700               | 801               | 15                | 145               | 3,741             |
| 1935.....             | 2,022             | 530               | 90                | 1,010             | 834               | 15                | 198               | 4,699             |
| 1936.....             | 1,852             | 720               | 100               | 1,135             | 1,021             | 20                | 195               | 5,043             |
| 1937.....             | 1,820             | 678               | 100               | 1,278             | 1,075             | 20                | 215               | 5,186             |
| 1938.....             | 1,845             | 655               | 100               | 1,480             | 1,044             | 20                | 215               | 5,359             |
| 1939.....             | 1,928             | 670               | 100               | 1,460             | 1,277             | 20                | 220               | 5,675             |
| 1940.....             | 2,140             | 875               | 105               | 1,860             | 1,485             | 30                | 245               | 6,740             |
| 1941.....             | 2,388             | 950               | 110               | 2,020             | 1,586             | 30                | 275               | 7,359             |
| 1942.....             | 2,374             | 875               | 110               | 2,474             | 2,458             | 30                | 320               | 8,841             |
| 1943.....             | 2,865             | 1,100             | 100               | 2,455             | 2,217             | 30                | 345               | 9,112             |
| 1944.....             | 3,191             | 1,020             | 90                | 2,685             | 1,775             | 30                | 315               | 9,106             |
| 1945.....             | 2,725             | 1,115             | 85                | 2,405             | 1,638             | 20                | 275               | 8,263             |
| 1946.....             | 2,706             | 1,064             | 75                | 2,430             | 2,050             | 15                | 295               | 8,635             |
| 1947.....             | 2,675             | 1,075             | 70                | 2,674             | 2,000             | 10                | 320               | 8,824             |
| 1948.....             | 2,776             | 1,300             | 65                | 3,220             | 2,210             | 10                | 420               | 10,001            |
| 1949.....             | 2,671             | 1,502             | 64                | 3,566             | 2,395             | 31                | 420               | 10,649            |
| 1950.....             | 2,698             | 1,720             | 65                | 4,005             | 2,854             | 30                | 550               | 11,922            |
| 1951.....             | 2,598             | 1,985             | 70                | 3,960             | 2,779             | 25                | 680               | 12,097            |
| 1952.....             | 2,730             | 1,870             | 70                | 4,095             | 2,538             | 10                | 505               | 11,818            |
| 1953.....             | 2,748             | 1,925             | 75                | 4,120             | 2,662             | -----             | 530               | 12,060            |
| 1954.....             | 2,648             | 1,965             | 75                | 3,960             | 2,509             | -----             | 525               | 11,682            |
| 1955.....             | 2,784             | 2,035             | 75                | 4,508             | 2,607             | -----             | 552               | 12,561            |
| 1956.....             | 2,869             | 2,175             | 70                | 4,718             | 2,809             | -----             | 550               | 13,191            |

<sup>1</sup> See footnote, table 37.



TABLE 39.—Consumption of cottonseed meal, by kinds of livestock, 1926-56

| Year beginning<br>Oct. 1 | Dairy<br>cattle   | Beef<br>cattle    | Sheep             | Poultry           | Hogs              | Horses<br>and<br>mules | Other<br>live-<br>stock | Total             |
|--------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|------------------------|-------------------------|-------------------|
|                          | <i>1,000 tons</i> | <i>1,000 tons</i> | <i>1,000 tons</i> | <i>1,000 tons</i> | <i>1,000 tons</i> | <i>1,000 tons</i>      | <i>1,000 tons</i>       | <i>1,000 tons</i> |
| 1926                     | 843               | 705               | 85                | 143               | 252               | 30                     | 90                      | 2,148             |
| 1927                     | 575               | 575               | 90                | 84                | 173               | 30                     | 60                      | 1,587             |
| 1928                     | 825               | 670               | 100               | 84                | 153               | 20                     | 70                      | 1,922             |
| 1929                     | 975               | 595               | 100               | 101               | 154               | 20                     | 70                      | 2,015             |
| 1930                     | 885               | 520               | 90                | 82                | 159               | 20                     | 65                      | 1,821             |
| 1931                     | 842               | 495               | 60                | 87                | 166               | 20                     | 70                      | 1,740             |
| 1932                     | 807               | 480               | 60                | 87                | 151               | 15                     | 80                      | 1,680             |
| 1933                     | 785               | 580               | 70                | 61                | 109               | 15                     | 80                      | 1,700             |
| 1934                     | 517               | 610               | 90                | 70                | 152               | 15                     | 70                      | 1,524             |
| 1935                     | 817               | 520               | 90                | 85                | 101               | 15                     | 90                      | 1,718             |
| 1936                     | 945               | 663               | 100               | 85                | 206               | 20                     | 80                      | 2,099             |
| 1937                     | 985               | 668               | 100               | 175               | 285               | 20                     | 100                     | 2,333             |
| 1938                     | 809               | 635               | 100               | 120               | 229               | 20                     | 100                     | 2,013             |
| 1939                     | 747               | 605               | 100               | 80                | 140               | 20                     | 70                      | 1,762             |
| 1940                     | 692               | 685               | 105               | 80                | 200               | 30                     | 70                      | 1,862             |
| 1941                     | 546               | 830               | 110               | 80                | 150               | 30                     | 75                      | 1,821             |
| 1942                     | 863               | 675               | 110               | 100               | 200               | 30                     | 100                     | 2,078             |
| 1943                     | 435               | 825               | 100               | 100               | 200               | 30                     | 100                     | 1,790             |
| 1944                     | 732               | 730               | 90                | 100               | 175               | 30                     | 125                     | 1,982             |
| 1945                     | 328               | 655               | 85                | 100               | 150               | 15                     | 100                     | 1,433             |
| 1946                     | 430               | 564               | 75                | 100               | 150               | 15                     | 100                     | 1,434             |
| 1947                     | 643               | 840               | 60                | 100               | 200               | 10                     | 100                     | 1,953             |
| 1948                     | 803               | 953               | 55                | 100               | 200               | 10                     | 150                     | 2,271             |
| 1949                     | 716               | 1,228             | 56                | 109               | 128               | 5                      | 140                     | 2,382             |
| 1950                     | 470               | 935               | 40                | 100               | 195               | 10                     | 103                     | 1,853             |
| 1951                     | 550               | 1,540             | 60                | 100               | 140               | 5                      | 255                     | 2,650             |
| 1952                     | 729               | 1,465             | 50                | 100               | 142               | -----                  | 185                     | 2,671             |
| 1953                     | 901               | 1,520             | 55                | 100               | 150               | -----                  | 200                     | 2,926             |
| 1954                     | 780               | 1,170             | 55                | 100               | 150               | -----                  | 150                     | 2,405             |
| 1955                     | 786               | 1,270             | 55                | 100               | 150               | -----                  | 150                     | 2,511             |
| 1956                     | 710               | 1,090             | 50                | 100               | 154               | -----                  | 125                     | 2,229             |

TABLE 40.—Consumption of soybean meal, by kinds of livestock, 1926-56

| Year beginning Oct. 1 | Dairy cattle      | Beef cattle       | Sheep             | Poultry           | Hogs              | Other livestock   | Total             |
|-----------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
|                       | <i>1,000 tons</i> | <i>1,000 tons</i> | <i>1,000 tons</i> | <i>1,000 tons</i> | <i>1,000 tons</i> | <i>1,000 tons</i> | <i>1,000 tons</i> |
| 1926                  |                   |                   |                   | 32                |                   |                   | 32                |
| 1927                  |                   |                   |                   | 61                |                   |                   | 61                |
| 1928                  | 20                |                   |                   | 71                |                   |                   | 91                |
| 1929                  | 20                |                   |                   | 94                |                   |                   | 114               |
| 1930                  | 20                |                   |                   | 103               |                   |                   | 123               |
| 1931                  | 30                |                   |                   | 83                | 20                |                   | 133               |
| 1932                  | 20                |                   |                   | 73                | 20                |                   | 113               |
| 1933                  | 20                |                   |                   | 69                | 10                |                   | 99                |
| 1934                  | 80                |                   |                   | 105               | 82                |                   | 267               |
| 1935                  | 234               |                   |                   | 300               | 70                | 10                | 614               |
| 1936                  | 75                |                   |                   | 335               | 102               | 20                | 532               |
| 1937                  | 100               |                   |                   | 458               | 141               | 20                | 719               |
| 1938                  | 250               |                   |                   | 620               | 125               | 25                | 1,020             |
| 1939                  | 276               | 35                |                   | 655               | 250               | 60                | 1,276             |
| 1940                  | 213               | 60                |                   | 955               | 168               | 95                | 1,491             |
| 1941                  | 263               | 30                |                   | 1,090             | 292               | 110               | 1,785             |
| 1942                  | 206               | 70                |                   | 1,685             | 993               | 120               | 3,074             |
| 1943                  | 775               | 125               |                   | 1,655             | 633               | 135               | 3,323             |
| 1944                  | 740               | 180               |                   | 1,845             | 772               | 90                | 3,627             |
| 1945                  | 977               | 340               |                   | 1,740             | 498               | 100               | 3,655             |
| 1946                  | 610               | 375               |                   | 1,635             | 1,005             | 120               | 3,745             |
| 1947                  | 573               | 100               | 10                | 1,799             | 746               | 155               | 3,383             |
| 1948                  | 540               | 200               | 10                | 2,250             | 958               | 200               | 4,158             |
| 1949                  | 361               | 130               | 6                 | 2,663             | 1,167             | 190               | 4,517             |
| 1950                  | 401               | 595               | 25                | 3,055             | 1,305             | 337               | 5,718             |
| 1951                  | 530               | 335               | 10                | 2,970             | 1,475             | 320               | 5,640             |
| 1952                  | 726               | 195               | 20                | 2,940             | 1,434             | 195               | 5,510             |
| 1953                  | 434               | 240               | 20                | 2,810             | 1,291             | 170               | 4,965             |
| 1954                  | 552               | 600               | 20                | 2,835             | 1,201             | 220               | 5,428             |
| 1955                  | 534               | 595               | 20                | 3,235             | 1,413             | 245               | 6,042             |
| 1956                  | 730               | 910               | 20                | 3,505             | 1,625             | 295               | 7,085             |

TABLE 41.—Consumption of other oilmeals, by kinds of livestock, 1926-56 <sup>1</sup>

| Year beginning Oct. 1 | Dairy<br>cattle   | Beef<br>cattle    | Poultry           | Hogs              | Other<br>livestock | Total             |
|-----------------------|-------------------|-------------------|-------------------|-------------------|--------------------|-------------------|
|                       | <i>1,000 tons</i> | <i>1,000 tons</i> | <i>1,000 tons</i> | <i>1,000 tons</i> | <i>1,000 tons</i>  | <i>1,000 tons</i> |
| 1926.....             | 140               | 10                | 105               | 258               | 10                 | 523               |
| 1927.....             | 240               | 30                | 60                | 260               | 20                 | 610               |
| 1928.....             | 175               | 20                | 75                | 287               | 10                 | 567               |
| 1929.....             | 180               | 20                | 85                | 218               | 10                 | 513               |
| 1930.....             | 165               | 10                | 110               | 153               | 10                 | 448               |
| 1931.....             | 115               | -----             | 95                | 83                | -----              | 293               |
| 1932.....             | 125               | -----             | 90                | 99                | -----              | 314               |
| 1933.....             | 135               | -----             | 50                | 85                | -----              | 270               |
| 1934.....             | 180               | -----             | 60                | 121               | -----              | 361               |
| 1935.....             | 200               | 10                | 85                | 145               | -----              | 440               |
| 1936.....             | 130               | 17                | 140               | 190               | -----              | 477               |
| 1937.....             | 65                | 10                | 130               | 140               | -----              | 345               |
| 1938.....             | 85                | 20                | 175               | 127               | -----              | 407               |
| 1939.....             | 130               | 30                | 200               | 251               | -----              | 611               |
| 1940.....             | 310               | 100               | 180               | 462               | -----              | 1,052             |
| 1941.....             | 250               | 50                | 280               | 453               | -----              | 1,033             |
| 1942.....             | 230               | 90                | 150               | 467               | -----              | 937               |
| 1943.....             | 370               | 110               | 150               | 512               | -----              | 1,142             |
| 1944.....             | 200               | 60                | 100               | 243               | -----              | 603               |
| 1945.....             | 200               | 80                | 150               | 287               | 5                  | 722               |
| 1946.....             | 170               | 70                | 150               | 268               | -----              | 658               |
| 1947.....             | 270               | 100               | 150               | 385               | -----              | 905               |
| 1948.....             | 267               | 100               | 150               | 370               | -----              | 887               |
| 1949.....             | 334               | 94                | 154               | 378               | 8                  | 968               |
| 1950.....             | 198               | 130               | 150               | 590               | 20                 | 1,088             |
| 1951.....             | 390               | 65                | 150               | 215               | 20                 | 840               |
| 1952.....             | 220               | 165               | 155               | 165               | 20                 | 735               |
| 1953.....             | 265               | 120               | 150               | 230               | 20                 | 785               |
| 1954.....             | 118               | 150               | 150               | 250               | 20                 | 688               |
| 1955.....             | 200               | 120               | 150               | 135               | 20                 | 625               |
| 1956.....             | 219               | 125               | 165               | 180               | 20                 | 709               |

<sup>1</sup> Includes linseed meal, peanut meal, and copra.

Year beginning Oct. 1

Principal livestock on farms

Principal livestock on farms

Principal livestock on farms

Principal livestock on farms

|      | Principal livestock on farms |             |       |         |      |                  | Total | Principal livestock on farms |              |             |       |         |      | Total |                  |       |       |
|------|------------------------------|-------------|-------|---------|------|------------------|-------|------------------------------|--------------|-------------|-------|---------|------|-------|------------------|-------|-------|
|      | Dairy cattle                 | Beef cattle | Sheep | Poultry | Hogs | Horses and mules |       | Other live stock             | Dairy cattle | Beef cattle | Sheep | Poultry | Hogs |       | Horses and mules |       |       |
| 1926 | 1,480                        | 200         | ---   | 1,780   | 900  | 350              | 200   | 4,970                        | 643          | 350         | 55    | 510     | 145  | 630   | 1,000 tons       | 100   | 2,433 |
| 1927 | 1,860                        | 230         | ---   | 1,700   | 800  | 270              | 230   | 5,120                        | 667          | 325         | 45    | 520     | 360  | 450   | 190              | 2,557 |       |
| 1928 | 1,773                        | 230         | 25    | 1,830   | 700  | 330              | 220   | 5,178                        | 786          | 300         | 35    | 678     | 330  | 220   | 170              | 2,516 |       |
| 1929 | 1,914                        | 200         | 25    | 1,850   | 720  | 270              | 220   | 5,199                        | 951          | 255         | 35    | 690     | 280  | 205   | 170              | 2,586 |       |
| 1930 | 1,930                        | 200         | 25    | 1,790   | 703  | 170              | 215   | 5,033                        | 1,035        | 265         | 35    | 550     | 278  | 200   | 170              | 2,533 |       |
| 1931 | 2,214                        | 85          | 20    | 1,555   | 310  | 45               | 190   | 4,449                        | 1,351        | 250         | 35    | 515     | 60   | 95    | 65               | 2,371 |       |
| 1932 | 1,930                        | 95          | 25    | 1,820   | 345  | 50               | 200   | 4,465                        | 1,386        | 260         | 40    | 535     | 65   | 100   | 70               | 2,456 |       |
| 1933 | 1,825                        | 100         | 25    | 1,850   | 300  | 50               | 200   | 4,350                        | 1,496        | 265         | 40    | 515     | 60   | 100   | 70               | 2,516 |       |
| 1934 | 1,931                        | 75          | 25    | 1,910   | 251  | 45               | 265   | 4,502                        | 1,540        | 125         | 40    | 530     | 49   | 100   | 70               | 2,454 |       |
| 1935 | 1,860                        | 110         | 25    | 2,068   | 439  | 45               | 280   | 4,827                        | 1,417        | 290         | 40    | 530     | 60   | 100   | 75               | 2,512 |       |
| 1936 | 1,763                        | 85          | 25    | 2,220   | 365  | 45               | 275   | 4,778                        | 1,640        | 155         | 40    | 570     | 80   | 110   | 75               | 2,670 |       |
| 1937 | 1,637                        | 110         | 25    | 2,090   | 400  | 40               | 270   | 4,572                        | 1,531        | 290         | 40    | 515     | 60   | 105   | 75               | 2,616 |       |
| 1938 | 1,676                        | 110         | 25    | 2,230   | 490  | 50               | 305   | 4,886                        | 1,589        | 290         | 40    | 580     | 70   | 105   | 75               | 2,749 |       |
| 1939 | 1,350                        | 120         | 45    | 2,380   | 516  | 60               | 290   | 4,761                        | 1,551        | 280         | 40    | 545     | 100  | 125   | 75               | 2,726 |       |
| 1940 | 1,287                        | 120         | 55    | 2,086   | 378  | 73               | 238   | 4,887                        | 1,515        | 287         | 44    | 591     | 111  | 150   | 83               | 2,781 |       |
| 1941 | 1,157                        | 105         | 50    | 2,640   | 370  | 60               | 275   | 4,657                        | 1,553        | 275         | 40    | 660     | 131  | 135   | 90               | 2,884 |       |
| 1942 | 1,065                        | 100         | 45    | 2,870   | 449  | 50               | 305   | 4,884                        | 1,295        | 250         | 35    | 645     | 139  | 100   | 110              | 2,574 |       |
| 1943 | 1,270                        | 110         | 40    | 2,857   | 440  | 50               | 335   | 5,102                        | 1,225        | 300         | 30    | 640     | 133  | 100   | 110              | 2,488 |       |
| 1944 | 1,448                        | 125         | 40    | 3,240   | 400  | 50               | 335   | 5,638                        | 1,414        | 280         | 30    | 670     | 93   | 100   | 110              | 2,697 |       |
| 1945 | 1,380                        | 135         | 35    | 2,770   | 401  | 40               | 290   | 5,051                        | 1,360        | 450         | 30    | 890     | 120  | 120   | 140              | 3,110 |       |
| 1946 | 1,600                        | 159         | 35    | 3,425   | 635  | 50               | 360   | 6,264                        | 1,495        | 470         | 30    | 915     | 120  | 145   | 150              | 3,325 |       |
| 1947 | 1,363                        | 105         | 30    | 3,335   | 480  | 35               | 310   | 5,658                        | 1,385        | 430         | 40    | 980     | 121  | 200   | 140              | 3,296 |       |
| 1948 | 1,156                        | 130         | 28    | 3,070   | 395  | 28               | 300   | 5,107                        | 1,637        | 535         | 35    | 1,080   | 142  | 165   | 160              | 3,754 |       |
| 1949 | 1,091                        | 130         | 24    | 2,884   | 367  | 150              | 322   | 4,968                        | 1,814        | 598         | 35    | 1,085   | 163  | 107   | 194              | 3,996 |       |
| 1950 | 1,105                        | 130         | 25    | 2,905   | 370  | 150              | 320   | 5,005                        | 1,865        | 630         | 35    | 1,055   | 165  | 110   | 200              | 4,061 |       |
| 1951 | 1,212                        | 120         | 25    | 3,010   | 370  | 140              | 340   | 5,217                        | 2,010        | 734         | 50    | 1,025   | 185  | 100   | 220              | 4,324 |       |
| 1952 | 1,150                        | 130         | 25    | 2,818   | 340  | 120              | 400   | 4,983                        | 1,103        | 60          | 60    | 1,020   | 175  | 100   | 300              | 4,778 |       |
| 1953 | 1,105                        | 125         | 25    | 2,837   | 350  | 100              | 400   | 4,942                        | 2,030        | 60          | 1,000 | 200     | 200  | 100   | 300              | 5,307 |       |
| 1954 | 1,140                        | 125         | 25    | 2,790   | 350  | 90               | 350   | 4,870                        | 2,200        | 1,117       | 70    | 1,117   | 203  | 100   | 300              | 5,678 |       |
| 1955 | 1,080                        | 115         | 20    | 2,729   | 351  | 80               | 350   | 4,725                        | 2,159        | 1,425       | 70    | 980     | 209  | 100   | 300              | 5,243 |       |
| 1956 | 1,134                        | 125         | 20    | 2,740   | 350  | 75               | 350   | 4,794                        | 2,000        | 1,450       | 70    | 990     | 200  | 90    | 300              | 5,100 |       |

<sup>1</sup> Feeds fed as such or in mixed or formula feeds. <sup>2</sup> Wheat and rice millfeeds.

<sup>3</sup> Includes dried and molasses beet and citrus pulp, alfalfa meal, molasses, hominy, oat millfeed, and screenings.



TABLE 43.—Commercial byproduct feeds and all concentrates fed to different kinds of livestock, 1909-56 1

| Year beginning Oct. 1 | Commercial byproduct feeds   |             |       |         |                |        |                    |                              |             |        | All concentrates excluding corn in silage |                |        |                    |       |         |  |  |  |  |
|-----------------------|------------------------------|-------------|-------|---------|----------------|--------|--------------------|------------------------------|-------------|--------|---|----------------|--------|--------------------|-------|---------|--|--|--|--|
|                       | Principal livestock on farms |             |       |         |                | Total  | Other live-stock 2 | Principal livestock on farms |             |        |   |                | Total  | Other live-stock 2 |       |         |  |  |  |  |
|                       | Dairy cattle                 | Beef cattle | Sheep | Poultry | Hogs and mules |        |                    | Dairy cattle                 | Beef cattle | Sheep  | Poultry                                   | Hogs and mules |        |                    |       |         |  |  |  |  |
| 1909                  | 2,755                        | 580         | 85    | 1,490   | 1,890          | 8,300  | 1,000              | 3,110                        | 1,060       | 32,240 | 1,000                                     | 1,000          | 4,980  | 1,000              | 1,000 | 103,944 |  |  |  |  |
| 1910                  | 2,710                        | 600         | 90    | 1,470   | 1,220          | 8,700  | 1,000              | 3,570                        | 1,060       | 36,796 | 1,000                                     | 1,000          | 9,980  | 1,000              | 1,000 | 108,974 |  |  |  |  |
| 1911                  | 2,610                        | 600         | 90    | 1,280   | 1,320          | 8,900  | 1,000              | 2,730                        | 1,920       | 35,106 | 1,000                                     | 1,000          | 10,500 | 1,000              | 1,000 | 110,845 |  |  |  |  |
| 1912                  | 2,860                        | 700         | 90    | 1,230   | 2,000          | 9,200  | 1,000              | 4,025                        | 1,100       | 39,090 | 1,000                                     | 1,000          | 11,400 | 1,000              | 1,000 | 124,429 |  |  |  |  |
| 1913                  | 2,860                        | 640         | 90    | 1,360   | 2,800          | 9,300  | 1,000              | 8,640                        | 2,790       | 33,179 | 1,000                                     | 1,000          | 11,250 | 1,000              | 1,000 | 137,429 |  |  |  |  |
| 1914                  | 3,020                        | 670         | 100   | 1,430   | 2,600          | 9,900  | 1,000              | 8,550                        | 710         | 38,254 | 1,000                                     | 1,000          | 10,960 | 1,000              | 1,000 | 148,644 |  |  |  |  |
| 1915                  | 3,025                        | 750         | 100   | 1,325   | 2,800          | 9,900  | 1,000              | 11,410                       | 854         | 39,130 | 1,000                                     | 1,000          | 11,410 | 1,000              | 1,000 | 150,944 |  |  |  |  |
| 1916                  | 2,940                        | 700         | 100   | 1,400   | 2,600          | 9,800  | 1,000              | 8,630                        | 650         | 34,162 | 1,000                                     | 1,000          | 11,090 | 1,000              | 1,000 | 148,762 |  |  |  |  |
| 1917                  | 3,200                        | 750         | 100   | 1,550   | 2,600          | 10,300 | 1,000              | 11,740                       | 840         | 38,913 | 1,000                                     | 1,000          | 12,300 | 1,000              | 1,000 | 160,883 |  |  |  |  |
| 1918                  | 3,350                        | 650         | 100   | 1,700   | 2,400          | 10,100 | 1,000              | 4,890                        | 780         | 37,042 | 1,000                                     | 1,000          | 12,250 | 1,000              | 1,000 | 160,762 |  |  |  |  |
| 1919                  | 3,550                        | 650         | 100   | 1,800   | 2,200          | 10,100 | 1,000              | 11,660                       | 800         | 36,128 | 1,000                                     | 1,000          | 12,060 | 1,000              | 1,000 | 166,168 |  |  |  |  |
| 1920                  | 3,650                        | 600         | 100   | 1,800   | 2,000          | 9,800  | 1,000              | 12,570                       | 950         | 39,300 | 1,000                                     | 1,000          | 13,890 | 1,000              | 1,000 | 170,150 |  |  |  |  |
| 1921                  | 3,750                        | 600         | 100   | 1,900   | 1,900          | 9,600  | 1,000              | 12,360                       | 5,400       | 40,480 | 1,000                                     | 1,000          | 13,570 | 1,000              | 1,000 | 182,275 |  |  |  |  |
| 1922                  | 3,450                        | 700         | 100   | 2,100   | 2,300          | 10,400 | 1,000              | 12,390                       | 760         | 41,550 | 1,000                                     | 1,000          | 13,890 | 1,000              | 1,000 | 190,690 |  |  |  |  |
| 1923                  | 4,050                        | 700         | 100   | 2,500   | 1,900          | 10,700 | 1,000              | 13,830                       | 4,700       | 40,053 | 1,000                                     | 1,000          | 15,580 | 1,000              | 1,000 | 205,423 |  |  |  |  |
| 1924                  | 3,850                        | 800         | 100   | 2,700   | 1,820          | 10,900 | 1,000              | 12,340                       | 810         | 44,490 | 1,000                                     | 1,000          | 14,490 | 1,000              | 1,000 | 211,631 |  |  |  |  |
| 1925                  | 3,950                        | 1,000       | 120   | 2,800   | 2,000          | 11,400 | 1,000              | 13,870                       | 5,700       | 46,784 | 1,000                                     | 1,000          | 16,800 | 1,000              | 1,000 | 233,580 |  |  |  |  |
| 1926                  | 3,732                        | 1,265       | 140   | 2,603   | 2,052          | 11,662 | 1,000              | 12,430                       | 4,760       | 47,982 | 1,000                                     | 1,000          | 17,900 | 1,000              | 1,000 | 251,365 |  |  |  |  |
| 1927                  | 3,996                        | 1,180       | 135   | 2,808   | 2,023          | 11,917 | 1,000              | 13,630                       | 5,030       | 49,095 | 1,000                                     | 1,000          | 17,910 | 1,000              | 1,000 | 261,840 |  |  |  |  |
| 1928                  | 4,194                        | 1,240       | 160   | 3,215   | 1,988          | 11,917 | 1,000              | 14,500                       | 4,920       | 50,550 | 1,000                                     | 1,000          | 17,850 | 1,000              | 1,000 | 271,495 |  |  |  |  |
| 1929                  | 4,615                        | 1,070       | 160   | 3,255   | 1,883          | 12,028 | 1,000              | 13,720                       | 5,120       | 53,511 | 1,000                                     | 1,000          | 18,930 | 1,000              | 1,000 | 290,401 |  |  |  |  |
| 1930                  | 4,469                        | 995         | 150   | 2,986   | 1,844          | 11,399 | 1,000              | 12,190                       | 4,800       | 48,419 | 1,000                                     | 1,000          | 16,970 | 1,000              | 1,000 | 268,974 |  |  |  |  |
| 1931                  | 5,052                        | 830         | 115   | 2,780   | 1,081          | 10,418 | 1,000              | 15,460                       | 7,590       | 47,014 | 1,000                                     | 1,000          | 18,710 | 1,000              | 1,000 | 277,874 |  |  |  |  |
| 1932                  | 4,773                        | 835         | 125   | 3,085   | 1,125          | 10,538 | 1,000              | 16,250                       | 7,200       | 49,666 | 1,000                                     | 1,000          | 19,100 | 1,000              | 1,000 | 303,046 |  |  |  |  |
| 1933                  | 4,889                        | 945         | 135   | 3,085   | 994            | 10,648 | 1,000              | 13,850                       | 5,280       | 50,661 | 1,000                                     | 1,000          | 18,558 | 1,000              | 1,000 | 317,843 |  |  |  |  |
| 1934                  | 4,821                        | 840         | 155   | 3,140   | 1,101          | 10,697 | 1,000              | 12,028                       | 2,940       | 48,257 | 1,000                                     | 1,000          | 14,528 | 1,000              | 1,000 | 311,460 |  |  |  |  |
| 1935                  | 5,299                        | 980         | 155   | 3,608   | 1,333          | 12,038 | 1,000              | 14,880                       | 5,500       | 50,037 | 1,000                                     | 1,000          | 18,580 | 1,000              | 1,000 | 328,917 |  |  |  |  |
| 1936                  | 5,255                        | 960         | 165   | 3,925   | 1,466          | 12,491 | 1,000              | 13,108                       | 3,195       | 45,210 | 1,000                                     | 1,000          | 15,210 | 1,000              | 1,000 | 330,845 |  |  |  |  |
| 1937                  | 4,988                        | 1,078       | 165   | 3,883   | 1,535          | 12,374 | 1,000              | 15,430                       | 5,830       | 47,750 | 1,000                                     | 1,000          | 16,229 | 1,000              | 1,000 | 340,429 |  |  |  |  |
| 1938                  | 5,110                        | 1,055       | 165   | 4,290   | 1,175          | 12,994 | 1,000              | 16,680                       | 6,590       | 49,390 | 1,000                                     | 1,000          | 19,390 | 1,000              | 1,000 | 354,987 |  |  |  |  |
| 1939                  | 4,839                        | 1,070       | 185   | 4,385   | 1,893          | 13,162 | 1,000              | 17,170                       | 6,890       | 49,480 | 1,000                                     | 1,000          | 19,480 | 1,000              | 1,000 | 363,995 |  |  |  |  |

|      |       |       |     |       |       |     |       |        |        |        |       |        |        |        |       |         |
|------|-------|-------|-----|-------|-------|-----|-------|--------|--------|--------|-------|--------|--------|--------|-------|---------|
| 1940 | 4,942 | 1,282 | 204 | 5,137 | 1,974 | 253 | 616   | 14,408 | 18,680 | 8,020  | 1,140 | 22,345 | 37,844 | 10,885 | 2,730 | 101,644 |
| 1941 | 5,098 | 1,330 | 200 | 5,320 | 2,087 | 225 | 640   | 14,900 | 20,425 | 8,135  | 1,230 | 25,830 | 43,434 | 10,545 | 3,060 | 112,640 |
| 1942 | 4,934 | 1,225 | 190 | 5,989 | 3,046 | 180 | 735   | 16,299 | 21,825 | 9,010  | 1,255 | 30,690 | 58,391 | 10,875 | 3,890 | 135,036 |
| 1943 | 5,360 | 1,460 | 170 | 5,952 | 2,790 | 180 | 790   | 16,702 | 22,111 | 9,025  | 1,135 | 30,215 | 55,970 | 10,500 | 3,030 | 132,876 |
| 1944 | 6,053 | 1,425 | 160 | 6,595 | 2,268 | 180 | 760   | 17,441 | 22,925 | 9,085  | 1,120 | 30,995 | 45,051 | 9,540  | 3,740 | 122,436 |
| 1945 | 5,465 | 1,700 | 150 | 6,065 | 2,159 | 180 | 705   | 16,424 | 22,104 | 10,600 | 1,060 | 29,453 | 50,380 | 8,950  | 3,600 | 126,147 |
| 1946 | 5,801 | 1,693 | 140 | 6,770 | 2,805 | 210 | 805   | 18,224 | 21,872 | 9,880  | 1,025 | 28,011 | 43,931 | 7,940  | 3,490 | 116,049 |
| 1947 | 5,423 | 1,610 | 140 | 6,989 | 2,605 | 245 | 770   | 17,773 | 20,221 | 7,800  | 850   | 26,390 | 38,329 | 6,560  | 2,900 | 104,550 |
| 1948 | 5,569 | 1,965 | 128 | 7,370 | 2,747 | 203 | 880   | 18,862 | 21,351 | 10,720 | 700   | 28,890 | 42,293 | 5,870  | 3,300 | 113,184 |
| 1949 | 5,576 | 2,220 | 123 | 7,535 | 2,925 | 288 | 936   | 19,613 | 21,456 | 10,804 | 724   | 31,421 | 45,473 | 5,349  | 4,045 | 119,274 |
| 1950 | 5,669 | 2,480 | 125 | 7,965 | 3,389 | 290 | 1,070 | 20,988 | 21,300 | 13,100 | 710   | 30,900 | 48,170 | 4,700  | 4,250 | 123,130 |
| 1951 | 5,820 | 2,839 | 145 | 7,995 | 3,384 | 265 | 1,240 | 21,658 | 21,400 | 15,700 | 820   | 30,400 | 48,499 | 4,035  | 4,500 | 125,354 |
| 1952 | 5,910 | 3,103 | 145 | 7,953 | 3,053 | 230 | 1,208 | 21,579 | 22,100 | 14,360 | 830   | 29,970 | 38,362 | 3,630  | 4,750 | 114,002 |
| 1953 | 5,853 | 3,067 | 160 | 7,957 | 3,212 | 200 | 1,230 | 22,309 | 22,150 | 14,500 | 830   | 30,805 | 40,875 | 3,125  | 5,000 | 117,285 |
| 1954 | 5,778 | 3,778 | 170 | 7,867 | 3,062 | 190 | 1,173 | 22,230 | 22,350 | 15,100 | 850   | 28,870 | 42,054 | 2,700  | 5,000 | 116,924 |
| 1955 | 6,023 | 3,575 | 165 | 8,217 | 3,167 | 180 | 1,202 | 22,529 | 22,950 | 16,300 | 830   | 31,015 | 44,393 | 2,560  | 4,997 | 123,045 |
| 1956 | 6,003 | 3,750 | 160 | 8,448 | 3,359 | 165 | 1,200 | 23,085 | 23,300 | 16,500 | 815   | 31,220 | 44,100 | 2,305  | 5,000 | 123,240 |

1 See table 1 for feeds included.

2 Other livestock on farms and all livestock in cities.

TABLE 44.—Hay and silage fed to different kinds of livestock, 1909–56

| Year beginning<br>Oct. 1 | Hay             |                |               |                        |                                      | Total         | Silage and wet pulps <sup>2</sup> |                |               |               |
|--------------------------|-----------------|----------------|---------------|------------------------|--------------------------------------|---------------|-----------------------------------|----------------|---------------|---------------|
|                          | Dairy<br>cattle | Beef<br>cattle | Sheep         | Horses<br>and<br>mules | Other<br>live-<br>stock <sup>1</sup> |               | Dairy<br>cattle                   | Beef<br>cattle | Sheep         | Total         |
|                          | 1,000<br>tons   | 1,000<br>tons  | 1,000<br>tons | 1,000<br>tons          | 1,000<br>tons                        | 1,000<br>tons | 1,000<br>tons                     | 1,000<br>tons  | 1,000<br>tons | 1,000<br>tons |
| 1909                     | 31,440          | 8,800          | 3,600         | 32,500                 | 9,830                                | 86,170        | 4,110                             | 770            | 120           | 5,000         |
| 1910                     | 29,304          | 5,300          | 4,100         | 27,700                 | 9,780                                | 76,184        | 4,930                             | 930            | 140           | 6,000         |
| 1911                     | 23,660          | 5,863          | 2,650         | 25,080                 | 9,320                                | 66,573        | 5,750                             | 1,090          | 160           | 7,000         |
| 1912                     | 29,066          | 8,200          | 3,300         | 32,880                 | 9,620                                | 83,066        | 7,400                             | 1,400          | 200           | 9,000         |
| 1913                     | 27,200          | 8,492          | 3,500         | 30,400                 | 9,430                                | 79,022        | 9,880                             | 1,860          | 260           | 12,000        |
| 1914                     | 29,100          | 9,100          | 3,300         | 31,000                 | 9,105                                | 81,605        | 12,340                            | 2,330          | 330           | 15,000        |
| 1915                     | 33,680          | 10,500         | 3,600         | 34,680                 | 8,980                                | 91,440        | 14,800                            | 2,800          | 400           | 18,000        |
| 1916                     | 35,700          | 12,400         | 3,750         | 36,710                 | 8,670                                | 97,230        | 17,260                            | 3,260          | 480           | 21,000        |
| 1917                     | 33,100          | 10,114         | 3,370         | 32,300                 | 8,140                                | 87,024        | 18,900                            | 3,570          | 530           | 23,000        |
| 1918                     | 31,600          | 9,300          | 3,350         | 30,370                 | 7,670                                | 82,290        | 20,550                            | 3,880          | 570           | 25,000        |
| 1919                     | 35,827          | 11,800         | 3,900         | 33,400                 | 7,250                                | 92,177        | 23,316                            | 4,400          | 650           | 28,366        |
| 1920                     | 33,447          | 9,500          | 3,370         | 32,000                 | 6,300                                | 84,617        | 24,300                            | 4,526          | 670           | 29,496        |
| 1921                     | 36,339          | 11,450         | 3,690         | 34,100                 | 6,068                                | 91,647        | 23,450                            | 4,379          | 650           | 28,479        |
| 1922                     | 38,100          | 11,500         | 3,680         | 34,511                 | 5,530                                | 93,321        | 23,998                            | 4,400          | 670           | 29,068        |
| 1923                     | 38,200          | 10,400         | 3,200         | 33,220                 | 5,060                                | 90,080        | 26,074                            | 4,600          | 700           | 31,374        |
| 1924                     | 38,120          | 10,100         | 3,850         | 32,780                 | 4,580                                | 89,430        | 24,937                            | 4,600          | 700           | 30,237        |
| 1925                     | 34,900          | 9,300          | 3,730         | 30,350                 | 4,080                                | 82,360        | 25,953                            | 4,150          | 740           | 30,843        |
| 1926                     | 33,100          | 8,200          | 3,600         | 28,000                 | 3,636                                | 76,736        | 27,143                            | 3,900          | 850           | 31,893        |
| 1927                     | 43,100          | 8,800          | 4,500         | 32,894                 | 3,188                                | 92,482        | 26,826                            | 3,700          | 900           | 31,426        |
| 1928                     | 42,200          | 8,177          | 4,900         | 31,300                 | 2,750                                | 89,327        | 26,750                            | 3,750          | 1,000         | 31,500        |
| 1929                     | 42,100          | 9,300          | 4,400         | 28,399                 | 2,425                                | 86,624        | 26,163                            | 3,750          | 1,050         | 30,963        |
| 1930                     | 37,976          | 8,200          | 3,750         | 24,000                 | 2,300                                | 76,226        | 27,206                            | 3,800          | 1,050         | 32,056        |
| 1931                     | 38,180          | 7,450          | 3,700         | 22,648                 | 2,250                                | 74,228        | 29,662                            | 4,000          | 1,100         | 34,762        |
| 1932                     | 42,830          | 8,800          | 4,000         | 23,625                 | 2,230                                | 81,485        | 29,508                            | 4,200          | 1,050         | 34,758        |
| 1933                     | 41,418          | 8,995          | 3,300         | 22,552                 | 2,130                                | 78,395        | 30,661                            | 4,500          | 1,050         | 36,211        |
| 1934                     | 34,125          | 5,610          | 2,500         | 18,825                 | 2,050                                | 63,110        | 33,200                            | 4,235          | 1,100         | 38,535        |
| 1935                     | 42,409          | 9,900          | 4,000         | 23,100                 | 2,015                                | 81,424        | 35,300                            | 5,550          | 1,300         | 42,150        |
| 1936                     | 40,771          | 8,900          | 3,600         | 22,651                 | 1,980                                | 77,902        | 32,157                            | 4,800          | 1,150         | 38,107        |
| 1937                     | 40,820          | 8,850          | 3,530         | 21,107                 | 1,945                                | 76,252        | 35,150                            | 5,600          | 1,360         | 42,110        |
| 1938                     | 47,060          | 9,861          | 5,150         | 23,815                 | 1,935                                | 87,821        | 34,700                            | 5,550          | 1,307         | 41,557        |
| 1939                     | 49,294          | 11,200         | 5,300         | 23,255                 | 1,825                                | 90,874        | 32,969                            | 5,200          | 1,100         | 39,269        |
| 1940                     | 50,414          | 12,413         | 5,500         | 23,165                 | 1,815                                | 93,307        | 34,707                            | 6,400          | 1,350         | 42,457        |
| 1941                     | 54,032          | 11,580         | 6,270         | 23,850                 | 1,130                                | 96,862        | 35,212                            | 6,627          | 1,364         | 43,203        |
| 1942                     | 58,300          | 16,750         | 6,250         | 22,662                 | 1,200                                | 105,162       | 33,597                            | 6,280          | 1,288         | 41,165        |
| 1943                     | 60,164          | 18,050         | 5,600         | 20,650                 | 1,050                                | 105,514       | 32,196                            | 6,010          | 1,054         | 39,260        |
| 1944                     | 59,392          | 17,250         | 4,890         | 18,300                 | 970                                  | 100,802       | 34,455                            | 6,100          | 900           | 41,455        |
| 1945                     | 58,668          | 21,650         | 4,600         | 17,075                 | 960                                  | 102,953       | 33,357                            | 6,119          | 850           | 40,326        |
| 1946                     | 61,720          | 22,810         | 4,180         | 14,480                 | 932                                  | 104,122       | 34,544                            | 6,440          | 880           | 41,864        |
| 1947                     | 61,590          | 22,620         | 3,770         | 12,677                 | 980                                  | 101,637       | 35,912                            | 6,200          | 850           | 40,962        |
| 1948                     | 59,040          | 22,970         | 3,150         | 10,290                 | 860                                  | 96,310        | 37,615                            | 7,400          | 880           | 45,895        |
| 1949                     | 59,158          | 23,082         | 2,993         | 8,209                  | 944                                  | 94,386        | 38,998                            | 8,362          | 590           | 47,950        |
| 1950                     | 62,300          | 28,651         | 3,360         | 7,730                  | 1,000                                | 103,041       | 41,602                            | 10,453         | 600           | 52,655        |
| 1951                     | 64,100          | 33,662         | 3,500         | 7,300                  | 1,000                                | 109,562       | 44,600                            | 9,811          | 600           | 55,011        |
| 1952                     | 62,700          | 33,168         | 3,800         | 5,960                  | 1,000                                | 106,628       | 44,300                            | 12,085         | 600           | 56,985        |
| 1953                     | 63,400          | 34,419         | 3,700         | 5,240                  | 1,000                                | 107,759       | 49,800                            | 12,602         | 600           | 63,002        |
| 1954                     | 62,100          | 36,520         | 3,800         | 4,730                  | 1,000                                | 108,150       | 53,600                            | 14,432         | 600           | 68,632        |
| 1955                     | 62,466          | 39,593         | 3,700         | 4,740                  | 1,000                                | 111,499       | 54,300                            | 14,508         | 600           | 69,408        |
| 1956                     | 60,503          | 38,100         | 3,700         | 4,230                  | 1,000                                | 107,533       | 56,143                            | 14,992         | 600           | 71,735        |

<sup>1</sup> Includes livestock in cities.

<sup>2</sup> See table 2 for details.



TABLE 45.—All dairy cattle: Grain and other concentrates fed, 1909-56<sup>1</sup>

| Year beginning<br>Oct. 1 | Grains                                |               |                     |                                     |                                  | Commercial byproducts <sup>2</sup> |                        |                |               | All-con-<br>centrates |
|--------------------------|---------------------------------------|---------------|---------------------|-------------------------------------|----------------------------------|------------------------------------|------------------------|----------------|---------------|-----------------------|
|                          | Corn exclud-<br>ing corn in<br>silage | Oats          | Barley <sup>2</sup> | Sor-<br>ghum<br>grains <sup>2</sup> | Wheat<br>and<br>rye <sup>2</sup> | Oilseed<br>meals                   | Plant<br>pro-<br>teins | Mill-<br>feeds | Other         |                       |
|                          | 1,000<br>tons                         | 1,000<br>tons | 1,000<br>tons       | 1,000<br>tons                       | 1,000<br>tons                    | 1,000<br>tons                      | 1,000<br>tons          | 1,000<br>tons  | 1,000<br>tons | 1,000<br>tons         |
| 1909.....                | 4,205                                 | 2,460         | 560                 | -----                               | -----                            | -----                              | -----                  | -----          | 2,755         | 9,980                 |
| 1910.....                | 4,510                                 | 2,800         | 450                 | -----                               | -----                            | -----                              | -----                  | -----          | 2,710         | 10,500                |
| 1911.....                | 4,120                                 | 1,960         | 610                 | -----                               | -----                            | -----                              | -----                  | -----          | 2,610         | 9,300                 |
| 1912.....                | 4,410                                 | 3,290         | 840                 | -----                               | -----                            | -----                              | -----                  | -----          | 2,860         | 11,400                |
| 1913.....                | 2,820                                 | 2,390         | 570                 | -----                               | -----                            | -----                              | -----                  | -----          | 2,860         | 8,640                 |
| 1914.....                | 2,740                                 | 2,070         | 720                 | -----                               | -----                            | -----                              | -----                  | -----          | 3,020         | 8,550                 |
| 1915.....                | 3,965                                 | 3,330         | 1,090               | -----                               | -----                            | -----                              | -----                  | -----          | 3,025         | 11,410                |
| 1916.....                | 2,670                                 | 2,350         | 670                 | -----                               | -----                            | -----                              | -----                  | -----          | 2,940         | 8,630                 |
| 1917.....                | 4,280                                 | 3,390         | 870                 | -----                               | -----                            | -----                              | -----                  | -----          | 3,200         | 11,740                |
| 1918.....                | 2,900                                 | 3,290         | 1,170               | -----                               | -----                            | -----                              | -----                  | -----          | 3,350         | 10,710                |
| 1919.....                | 4,410                                 | 2,750         | 950                 | -----                               | -----                            | -----                              | -----                  | -----          | 3,550         | 11,660                |
| 1920.....                | 4,425                                 | 3,500         | 995                 | -----                               | -----                            | -----                              | -----                  | -----          | 3,650         | 12,570                |
| 1921.....                | 4,925                                 | 2,770         | 915                 | -----                               | -----                            | -----                              | -----                  | -----          | 3,750         | 12,360                |
| 1922.....                | 5,155                                 | 2,820         | 965                 | -----                               | -----                            | -----                              | -----                  | -----          | 3,450         | 12,390                |
| 1923.....                | 5,550                                 | 3,030         | 1,200               | -----                               | -----                            | -----                              | -----                  | -----          | 4,050         | 13,830                |
| 1924.....                | 3,730                                 | 3,690         | 1,070               | -----                               | -----                            | -----                              | -----                  | -----          | 3,850         | 12,340                |
| 1925.....                | 5,250                                 | 3,690         | 980                 | -----                               | -----                            | -----                              | -----                  | -----          | 3,950         | 13,870                |
| 1926.....                | 4,713                                 | 2,900         | 850                 | 100                                 | 135                              | 983                                | 626                    | 1,480          | 643           | 12,430                |
| 1927.....                | 5,584                                 | 2,609         | 1,155               | 115                                 | 171                              | 815                                | 654                    | 1,860          | 667           | 13,630                |
| 1928.....                | 5,976                                 | 2,740         | 1,140               | 125                                 | 325                              | 1,020                              | 615                    | 1,773          | 786           | 14,500                |
| 1929.....                | 3,745                                 | 3,550         | 1,140               | 105                                 | 565                              | 1,175                              | 575                    | 1,914          | 951           | 13,720                |
| 1930.....                | 2,422                                 | 2,700         | 1,540               | 85                                  | 944                              | 1,070                              | 464                    | 1,930          | 1,035         | 12,190                |
| 1931.....                | 3,646                                 | 4,410         | 1,167               | 155                                 | 1,030                            | 987                                | 500                    | 2,214          | 1,351         | 15,460                |
| 1932.....                | 5,421                                 | 4,830         | 1,136               | 140                                 | 450                              | 952                                | 505                    | 1,930          | 1,386         | 16,250                |
| 1933.....                | 4,541                                 | 3,160         | 845                 | 120                                 | 295                              | 940                                | 658                    | 1,825          | 1,466         | 13,850                |
| 1934.....                | 4,334                                 | 2,220         | 840                 | 30                                  | 265                              | 777                                | 573                    | 1,931          | 1,540         | 12,510                |
| 1935.....                | 3,076                                 | 4,400         | 1,625               | 125                                 | 355                              | 1,251                              | 771                    | 1,960          | 1,417         | 14,880                |
| 1936.....                | 2,893                                 | 3,730         | 1,015               | 55                                  | 170                              | 1,150                              | 702                    | 1,763          | 1,640         | 13,108                |
| 1937.....                | 3,468                                 | 4,865         | 1,539               | 155                                 | 415                              | 1,150                              | 670                    | 1,637          | 1,531         | 15,430                |
| 1938.....                | 5,304                                 | 4,366         | 1,390               | 150                                 | 360                              | 1,144                              | 701                    | 1,676          | 1,589         | 16,680                |
| 1939.....                | 6,081                                 | 4,200         | 1,600               | 130                                 | 320                              | 1,153                              | 775                    | 1,350          | 1,561         | 17,170                |
| 1940.....                | 6,493                                 | 5,145         | 1,695               | 215                                 | 190                              | 1,215                              | 925                    | 1,287          | 1,515         | 18,680                |
| 1941.....                | 7,927                                 | 4,740         | 1,865               | 390                                 | 405                              | 1,059                              | 1,329                  | 1,157          | 1,553         | 20,425                |
| 1942.....                | 8,456                                 | 5,400         | 1,810               | 270                                 | 925                              | 1,299                              | 1,275                  | 1,065          | 1,295         | 21,825                |
| 1943.....                | 9,371                                 | 4,440         | 1,660               | 250                                 | 1,030                            | 1,580                              | 1,285                  | 1,270          | 1,225         | 22,111                |
| 1944.....                | 9,813                                 | 4,944         | 1,150               | 335                                 | 630                              | 1,672                              | 1,519                  | 1,448          | 1,414         | 22,925                |
| 1945.....                | 8,809                                 | 6,190         | 955                 | 220                                 | 465                              | 1,505                              | 1,220                  | 1,380          | 1,360         | 22,104                |
| 1946.....                | 8,756                                 | 5,990         | 820                 | 220                                 | 285                              | 1,210                              | 1,496                  | 1,600          | 1,495         | 21,872                |
| 1947.....                | 7,748                                 | 5,660         | 890                 | 190                                 | 310                              | 1,486                              | 1,189                  | 1,363          | 1,355         | 20,221                |
| 1948.....                | 8,642                                 | 5,690         | 1,030               | 220                                 | 200                              | 1,610                              | 1,166                  | 1,156          | 1,637         | 21,351                |
| 1949.....                | 9,353                                 | 5,216         | 886                 | 189                                 | 236                              | 1,411                              | 1,260                  | 1,091          | 1,814         | 21,486                |
| 1950.....                | 8,486                                 | 5,625         | 850                 | 430                                 | 210                              | 1,069                              | 1,629                  | 1,105          | 1,866         | 21,300                |
| 1951.....                | 8,620                                 | 5,630         | 790                 | 350                                 | 190                              | 1,470                              | 1,128                  | 1,212          | 2,010         | 21,400                |
| 1952.....                | 9,855                                 | 5,270         | 700                 | 235                                 | 130                              | 1,685                              | 1,045                  | 1,150          | 2,030         | 22,100                |
| 1953.....                | 9,777                                 | 5,280         | 840                 | 235                                 | 135                              | 1,600                              | 1,148                  | 1,105          | 2,030         | 22,150                |
| 1954.....                | 8,731                                 | 6,050         | 1,100               | 371                                 | 110                              | 1,450                              | 1,198                  | 1,140          | 2,200         | 22,350                |
| 1955.....                | 9,176                                 | 6,012         | 1,174               | 445                                 | 120                              | 1,520                              | 1,264                  | 1,080          | 2,159         | 22,950                |
| 1956.....                | 10,532                                | 5,100         | 1,055               | 480                                 | 130                              | 1,659                              | 1,210                  | 1,134          | 2,000         | 23,300                |

<sup>1</sup> Includes grain and other concentrates fed as such or in mixed or formula feeds to all dairy cattle, including young steers, veal calves, and bulls. See tables 9 and 46 for number January 1. The number of dairy cattle is the number on January 1 of the feeding year beginning the preceding October 1. For instance, the number of dairy cattle used for the year beginning October 1, 1950, is the number as of January 1, 1951.

<sup>2</sup> Before 1926, barley, sorghum grains, wheat, and rye are grouped together under barley.

<sup>3</sup> See table 1 for feeds included. Before 1926, all byproducts are grouped under "Other."



TABLE 46.—All dairy cattle: Number and harvested roughage, seeds, and milk fed, 1909-56

| Year beginning Oct. 1 | Hay        | Silage and wet pulp <sup>1</sup> | Corn stover and sorghum forage <sup>2</sup> | Straw <sup>2</sup> | Seeds <sup>3</sup> | Milk <sup>4</sup> | Number dairy cattle Jan. 1 <sup>5</sup> |
|-----------------------|------------|----------------------------------|---|--------------------|--------------------|-------------------|---|
|                       | 1,000 tons | 1,000 tons                       | 1,000 tons                                  | 1,000 tons         | 1,000 tons         | 1,000 tons        | 1,000 head                              |
| 1909                  | 31,440     | 4,110                            | 12,350                                      | 6,000              |                    |                   | 27,850                                  |
| 1910                  | 29,304     | 4,930                            | 13,040                                      | 8,100              |                    |                   | 27,822                                  |
| 1911                  | 23,660     | 5,750                            | 11,900                                      | 13,700             |                    |                   | 28,017                                  |
| 1912                  | 29,066     | 7,400                            | 13,280                                      | 6,700              |                    |                   | 28,080                                  |
| 1913                  | 27,200     | 9,880                            | 10,950                                      | 10,800             |                    |                   | 28,421                                  |
| 1914                  | 29,100     | 12,340                           | 11,360                                      | 8,700              |                    |                   | 29,070                                  |
| 1915                  | 33,680     | 14,800                           | 11,050                                      | 6,900              |                    |                   | 29,752                                  |
| 1916                  | 35,700     | 17,260                           | 9,750                                       | 6,700              |                    |                   | 30,412                                  |
| 1917                  | 33,100     | 18,900                           | 11,050                                      | 8,400              |                    |                   | 30,936                                  |
| 1918                  | 31,600     | 20,550                           | 9,730                                       | 10,800             |                    |                   | 30,945                                  |
| 1919                  | 35,827     | 23,316                           | 11,230                                      | 4,500              |                    |                   | 31,251                                  |
| 1920                  | 33,447     | 24,300                           | 11,950                                      | 5,500              |                    |                   | 30,796                                  |
| 1921                  | 36,339     | 23,450                           | 10,750                                      | 4,800              |                    |                   | 31,191                                  |
| 1922                  | 38,100     | 23,998                           | 10,330                                      | 3,900              |                    |                   | 31,655                                  |
| 1923                  | 38,200     | 26,074                           | 10,905                                      | 3,200              |                    |                   | 31,872                                  |
| 1924                  | 38,120     | 24,937                           | 9,360                                       | 5,700              |                    |                   | 32,048                                  |
| 1925                  | 34,900     | 25,953                           | 12,450                                      | 4,900              |                    |                   | 31,829                                  |
| 1926                  | 33,100     | 27,143                           | 11,950                                      | 6,400              | 730                | 610               | 31,793                                  |
| 1927                  | 43,100     | 26,826                           | 9,350                                       | 700                | 600                | 560               | 32,075                                  |
| 1928                  | 42,200     | 26,750                           | 9,280                                       | 1,800              | 580                | 600               | 32,919                                  |
| 1929                  | 42,100     | 26,163                           | 9,750                                       | 3,500              | 670                | 600               | 34,128                                  |
| 1930                  | 37,976     | 27,206                           | 9,680                                       | 9,200              | 640                | 620               | 35,048                                  |
| 1931                  | 38,180     | 29,662                           | 10,950                                      | 9,800              | 780                | 640               | 36,479                                  |
| 1932                  | 42,830     | 29,508                           | 12,000                                      | 7,000              | 700                | 640               | 38,010                                  |
| 1933                  | 41,418     | 30,661                           | 10,650                                      | 12,000             | 840                | 600               | 39,179                                  |
| 1934                  | 34,125     | 33,200                           | 8,170                                       | 17,800             | 670                | 580               | 37,528                                  |
| 1935                  | 42,409     | 35,300                           | 10,250                                      | 6,100              | 770                | 570               | 36,594                                  |
| 1936                  | 40,771     | 32,157                           | 6,770                                       | 12,000             | 740                | 540               | 35,979                                  |
| 1937                  | 40,820     | 35,150                           | 9,570                                       | 6,600              | 910                | 570               | 35,904                                  |
| 1938                  | 47,060     | 34,700                           | 9,930                                       | 2,200              | 740                | 570               | 36,759                                  |
| 1939                  | 49,294     | 32,969                           | 9,270                                       | 2,800              | 740                | 560               | 37,569                                  |
| 1940                  | 50,414     | 34,707                           | 10,450                                      | 2,500              | 840                | 580               | 38,555                                  |
| 1941                  | 54,032     | 35,212                           | 10,840                                      | 4,300              | 710                | 567               | 40,014                                  |
| 1942                  | 58,300     | 33,597                           | 9,530                                       | 4,600              | 940                | 550               | 41,452                                  |
| 1943                  | 60,164     | 32,196                           | 7,370                                       | 7,400              | 990                | 520               | 42,518                                  |
| 1944                  | 59,392     | 34,455                           | 7,170                                       | 8,000              | 771                | 490               | 42,134                                  |
| 1945                  | 58,668     | 33,357                           | 5,820                                       | 5,100              | 621                | 455               | 39,712                                  |
| 1946                  | 61,720     | 34,544                           | 5,500                                       | 2,900              | 440                | 450               | 38,803                                  |
| 1947                  | 61,590     | 33,912                           | 3,900                                       | 1,600              | 432                | 400               | 37,233                                  |
| 1948                  | 59,040     | 37,615                           | 4,250                                       | 1,200              | 348                | 400               | 36,278                                  |
| 1949                  | 59,158     | 38,998                           | 3,093                                       | 2,040              | 395                | 544               | 36,448                                  |
| 1950                  | 62,300     | 41,602                           | 3,220                                       | 890                | 310                | 540               | 36,344                                  |
| 1951                  | 64,100     | 44,600                           | 2,835                                       | 800                | 375                | 520               | 36,166                                  |
| 1952                  | 62,700     | 44,300                           | 2,450                                       | 4,400              | 240                | 525               | 36,880                                  |
| 1953                  | 63,400     | 49,800                           | 2,860                                       | 2,290              | 140                | 520               | 37,087                                  |
| 1954                  | 62,100     | 53,600                           | 2,670                                       | 680                | 180                | 520               | 36,235                                  |
| 1955                  | 62,466     | 54,300                           | 1,800                                       |                    | 235                | 520               | 35,581                                  |
| 1956                  | 60,503     | 56,143                           | 1,340                                       | 200                | 230                | 510               | 35,296                                  |

<sup>1</sup> Corn, sorghum, and grass silage, and wet beet and citrus pulp.

<sup>2</sup> See footnotes 6 and 7, table 2.

<sup>3</sup> See table 24 for seeds included.

<sup>4</sup> Milk and skim milk fed to calves.

<sup>5</sup> See footnote 1, table 45.

TABLE 47.—Milk cows: Number and feeds fed (except pasture), 1909-56<sup>1</sup>

| Year beginning Oct. 1 | Number milk cows 2 years old and over, Jan. 1 <sup>2</sup> | Feed fed in year                |                        |                   |                   |                   |                          |                   | Feed fed per head on farms Jan. 1 |             |             |                  |
|-----------------------|--|---------------------------------|------------------------|-------------------|-------------------|-------------------|--------------------------|-------------------|-----------------------------------|-------------|-------------|------------------|
|                       |  | Grain, excluding corn in silage | Commercial by-products | All concentrates  | Seeds             | Hay               | Silage and wet beet pulp | Stover and straw  | Concentrates                      | Hay         | Silage      | Stover and straw |
|                       | <i>1,000 head</i>  | <i>1,000 tons</i>               | <i>1,000 tons</i>      | <i>1,000 tons</i> | <i>1,000 tons</i> | <i>1,000 tons</i> | <i>1,000 tons</i>        | <i>1,000 tons</i> | <i>Pounds</i>                     | <i>Tons</i> | <i>Tons</i> | <i>Tons</i>      |
| 1909                  | 19,450   | 6,375                           | 2,465                  | 8,840             | -----             | 26,540            | 3,640                    | 15,100            | 909                               | 1.36        | 0.19        | 0.78             |
| 1910                  | 19,422   | 6,670                           | 2,410                  | 9,080             | -----             | 25,004            | 4,370                    | 16,220            | 935                               | 1.29        | .23         | .84              |
| 1911                  | 19,517   | 5,760                           | 2,260                  | 8,020             | -----             | 19,460            | 5,100                    | 21,650            | 822                               | 1.00        | .26         | 1.11             |
| 1912                  | 19,580   | 7,180                           | 2,490                  | 9,670             | -----             | 24,066            | 6,560                    | 16,800            | 988                               | 1.23        | .34         | .86              |
| 1913                  | 19,821   | 5,070                           | 2,490                  | 7,560             | -----             | 22,300            | 8,760                    | 18,450            | 763                               | 1.13        | .44         | .93              |
| 1914                  | 20,270   | 4,880                           | 2,630                  | 7,510             | -----             | 24,000            | 10,940                   | 16,930            | 741                               | 1.18        | .54         | .84              |
| 1915                  | 20,752   | 7,235                           | 2,625                  | 9,860             | -----             | 27,900            | 13,100                   | 15,350            | 950                               | 1.34        | .63         | .74              |
| 1916                  | 21,212   | 5,160                           | 2,560                  | 7,720             | -----             | 29,400            | 15,260                   | 14,250            | 728                               | 1.39        | .72         | .67              |
| 1917                  | 21,536   | 7,560                           | 2,800                  | 10,360            | -----             | 27,600            | 16,700                   | 16,250            | 962                               | 1.28        | .78         | .75              |
| 1918                  | 21,545   | 6,500                           | 3,000                  | 9,500             | -----             | 26,300            | 18,170                   | 17,250            | 882                               | 1.22        | .84         | .80              |
| 1919                  | 21,455   | 7,150                           | 3,200                  | 10,350            | -----             | 29,327            | 20,616                   | 13,380            | 965                               | 1.37        | .96         | .62              |
| 1920                  | 21,456   | 7,460                           | 3,300                  | 10,760            | -----             | 27,847            | 21,450                   | 14,620            | 1,003                             | 1.30        | 1.00        | .68              |
| 1921                  | 21,851   | 7,360                           | 3,400                  | 10,760            | -----             | 30,200            | 20,750                   | 13,200            | 985                               | 1.38        | .95         | .60              |
| 1922                  | 22,138   | 7,820                           | 3,100                  | 10,920            | -----             | 32,000            | 21,228                   | 11,680            | 987                               | 1.45        | .96         | .53              |
| 1923                  | 22,331   | 8,576                           | 3,700                  | 12,270            | -----             | 32,300            | 23,174                   | 11,615            | 1,099                             | 1.44        | 1.04        | .52              |
| 1924                  | 22,576   | 7,510                           | 3,600                  | 11,010            | -----             | 31,900            | 22,037                   | 12,750            | 975                               | 1.41        | .98         | .56              |
| 1925                  | 22,410   | 8,400                           | 3,600                  | 12,000            | -----             | 28,750            | 22,900                   | 15,100            | 1,071                             | 1.28        | 1.02        | .67              |
| 1926                  | 22,251   | 7,613                           | 3,377                  | 10,990            | 510               | 27,800            | 23,393                   | 15,400            | 988                               | 1.35        | 1.05        | .69              |
| 1927                  | 22,231   | 8,304                           | 3,636                  | 11,940            | 420               | 35,200            | 23,076                   | 8,050             | 1,074                             | 1.58        | 1.04        | .36              |
| 1928                  | 22,440   | 8,876                           | 3,824                  | 12,700            | 410               | 35,000            | 22,900                   | 9,050             | 1,132                             | 1.56        | 1.02        | .40              |
| 1929                  | 23,032   | 7,745                           | 4,285                  | 12,030            | 470               | 35,700            | 22,263                   | 9,900             | 1,045                             | 1.55        | .97         | .43              |
| 1930                  | 23,820   | 7,026                           | 4,194                  | 11,220            | 450               | 32,576            | 23,306                   | 14,340            | 942                               | 1.37        | .98         | .60              |
| 1931                  | 24,896   | 8,948                           | 4,772                  | 13,720            | 550               | 32,580            | 25,462                   | 16,200            | 1,102                             | 1.31        | 1.02        | .65              |
| 1932                  | 25,936   | 9,327                           | 4,473                  | 13,800            | 490               | 36,430            | 25,308                   | 14,800            | 1,064                             | 1.40        | .98         | .57              |
| 1933                  | 26,931   | 7,921                           | 4,579                  | 12,500            | 590               | 35,418            | 26,261                   | 17,700            | 928                               | 1.32        | .98         | .66              |
| 1934                  | 26,082   | 7,119                           | 4,721                  | 11,840            | 460               | 29,525            | 28,900                   | 20,550            | 908                               | 1.13        | 1.11        | .79              |
| 1935                  | 25,196   | 7,646                           | 4,954                  | 12,600            | 530               | 36,009            | 30,300                   | 12,900            | 1,000                             | 1.43        | 1.20        | .51              |
| 1936                  | 24,649   | 7,358                           | 5,150                  | 12,508            | 510               | 34,671            | 27,657                   | 14,900            | 1,015                             | 1.41        | 1.12        | .60              |
| 1937                  | 24,466   | 8,837                           | 4,653                  | 13,490            | 630               | 34,770            | 30,000                   | 12,700            | 1,103                             | 1.42        | 1.23        | .52              |
| 1938                  | 24,600   | 9,835                           | 4,785                  | 14,620            | 510               | 39,060            | 29,400                   | 9,900             | 1,189                             | 1.59        | 1.20        | .40              |
| 1939                  | 24,940   | 10,622                          | 4,588                  | 15,210            | 510               | 39,894            | 27,969                   | 9,700             | 1,220                             | 1.60        | 1.12        | .39              |
| 1940                  | 25,453   | 11,479                          | 4,696                  | 16,175            | 580               | 40,114            | 29,307                   | 10,800            | 1,271                             | 1.58        | 1.15        | .42              |
| 1941                  | 26,313   | 12,562                          | 4,813                  | 17,375            | 490               | 44,682            | 29,732                   | 11,500            | 1,321                             | 1.70        | 1.13        | .44              |
| 1942                  | 27,138   | 13,416                          | 4,649                  | 18,065            | 650               | 48,550            | 28,397                   | 9,840             | 1,331                             | 1.79        | 1.05        | .36              |
| 1943                  | 27,704   | 13,276                          | 5,060                  | 18,336            | 690               | 49,864            | 26,810                   | 10,670            | 1,324                             | 1.80        | .97         | .39              |
| 1944                  | 27,770   | 13,632                          | 5,758                  | 19,390            | 531               | 49,550            | 29,069                   | 11,100            | 1,396                             | 1.78        | 1.05        | .40              |
| 1945                  | 26,521   | 13,524                          | 5,180                  | 18,704            | 431               | 48,533            | 28,057                   | 8,360             | 1,411                             | 1.83        | 1.06        | .32              |
| 1946                  | 25,842   | 12,991                          | 5,466                  | 18,457            | 310               | 50,720            | 29,044                   | 6,900             | 1,428                             | 1.86        | 1.12        | .27              |
| 1947                  | 24,615   | 12,283                          | 5,138                  | 17,421            | 302               | 50,260            | 28,426                   | 4,600             | 1,415                             | 2.04        | 1.15        | .19              |
| 1948                  | 23,862   | 12,026                          | 5,289                  | 18,215            | 248               | 47,860            | 31,715                   | 4,580             | 1,527                             | 2.01        | 1.33        | .19              |
| 1949                  | 23,853   | 13,271                          | 5,306                  | 18,577            | 269               | 47,789            | 34,448                   | 4,043             | 1,558                             | 2.00        | 1.44        | .17              |
| 1950                  | 23,568   | 12,766                          | 5,334                  | 18,100            | 210               | 49,500            | 36,512                   | 3,260             | 1,536                             | 2.10        | 1.55        | .14              |
| 1951                  | 23,060   | 12,477                          | 5,423                  | 17,900            | 250               | 50,400            | 39,900                   | 3,200             | 1,552                             | 2.19        | 1.73        | .14              |
| 1952                  | 23,549   | 13,090                          | 5,510                  | 18,600            | 170               | 49,400            | 39,000                   | 5,900             | 1,580                             | 2.10        | 1.66        | .25              |
| 1953                  | 23,896   | 13,202                          | 5,498                  | 18,700            | 100               | 50,200            | 44,500                   | 4,300             | 1,565                             | 2.10        | 1.86        | .18              |
| 1954                  | 23,462   | 13,592                          | 5,608                  | 19,200            | 130               | 49,300            | 47,900                   | 2,750             | 1,637                             | 2.10        | 2.04        | .12              |
| 1955                  | 23,213   | 13,967                          | 5,633                  | 19,600            | 170               | 49,866            | 48,600                   | 1,400             | 1,689                             | 2.15        | 2.09        | .06              |
| 1956                  | 23,028   | 14,372                          | 5,628                  | 20,000            | 160               | 48,003            | 50,243                   | 1,240             | 1,737                             | 2.08        | 2.18        | .05              |

<sup>1</sup> Includes grains or other concentrates fed as such or in mixed or formula feeds. See tables 1, 2, and 23, and footnotes, for kinds of feeds included.

<sup>2</sup> The number of milk cows in the year beginning October 1 is the number on farms on January 1 following the October 1 in question. Number is larger than average number milked during year because at any date there are a number of heifers 2 years old that have not yet freshened. The feed for these heifers is included.

TABLE 48.—Other dairy cattle: Number and feeds fed (except pasture), 1909-56<sup>1</sup>

| Year beginning Oct. 1 | Number Jan. 1 <sup>2</sup> | Feed fed in year                |                        |                   |                   |                   |                   |                     |                   | Feed fed per head on farms Jan. 1 <sup>2</sup> |             |             |                  |
|-----------------------|----------------------------|---------------------------------|------------------------|-------------------|-------------------|-------------------|-------------------|---------------------|-------------------|--|-------------|-------------|------------------|
|                       |                            | Grain, excluding corn in silage | Commercial by-products | All concentrates  | Seeds             | Milk              | Hay               | Silage and wet pulp | Stover and straw  | Concentrates                                   | Hay         | Silage      | Stover and straw |
|                       | <i>1,000 head</i>          | <i>1,000 tons</i>               | <i>1,000 tons</i>      | <i>1,000 tons</i> | <i>1,000 tons</i> | <i>1,000 tons</i> | <i>1,000 tons</i> | <i>1,000 tons</i>   | <i>1,000 tons</i> | <i>Lbs.</i>                                    | <i>Tons</i> | <i>Tons</i> | <i>Tons</i>      |
| 1909                  | 8,400                      | 850                             | 290                    | 1,140             | -----             | -----             | 4,900             | 470                 | 3,250             | 271  | 0.58        | 0.06        | 0.39             |
| 1910                  | 8,400                      | 1,120                           | 300                    | 1,420             | -----             | -----             | 4,300             | 560                 | 4,920             | 338  | .51         | .07         | .59              |
| 1911                  | 8,500                      | 930                             | 350                    | 1,280             | -----             | -----             | 4,200             | 650                 | 3,950             | 301  | .49         | .08         | .46              |
| 1912                  | 8,500                      | 1,360                           | 370                    | 1,730             | -----             | -----             | 5,000             | 840                 | 3,180             | 407  | .59         | .10         | .37              |
| 1913                  | 8,600                      | 710                             | 370                    | 1,080             | -----             | -----             | 4,900             | 1,120               | 3,300             | 251  | .57         | .13         | .38              |
| 1914                  | 8,800                      | 650                             | 390                    | 1,040             | -----             | -----             | 5,100             | 1,400               | 3,130             | 236  | .58         | .16         | .36              |
| 1915                  | 9,000                      | 1,150                           | 400                    | 1,550             | -----             | -----             | 5,780             | 1,700               | 2,600             | 344  | .64         | .19         | .29              |
| 1916                  | 9,200                      | 530                             | 380                    | 910               | -----             | -----             | 6,300             | 2,000               | 2,200             | 198  | .68         | .22         | .24              |
| 1917                  | 9,400                      | 980                             | 400                    | 1,380             | -----             | -----             | 5,500             | 2,200               | 3,200             | 294  | .59         | .23         | .34              |
| 1918                  | 9,400                      | 860                             | 350                    | 1,210             | -----             | -----             | 5,300             | 2,380               | 3,280             | 257  | .56         | .25         | .35              |
| 1919                  | 9,796                      | 960                             | 350                    | 1,310             | -----             | -----             | 6,500             | 2,700               | 2,350             | 267  | .66         | .28         | .24              |
| 1920                  | 9,340                      | 1,460                           | 350                    | 1,810             | -----             | -----             | 5,600             | 2,850               | 2,830             | 388  | .60         | .31         | .30              |
| 1921                  | 9,340                      | 1,250                           | 350                    | 1,600             | -----             | -----             | 6,139             | 2,700               | 2,350             | 343  | .66         | .29         | .25              |
| 1922                  | 9,517                      | 1,120                           | 350                    | 1,470             | -----             | -----             | 6,100             | 2,770               | 2,550             | 309  | .64         | .29         | .27              |
| 1923                  | 9,541                      | 1,210                           | 350                    | 1,560             | -----             | -----             | 6,000             | 2,900               | 2,490             | 327  | .63         | .30         | .26              |
| 1924                  | 9,472                      | 980                             | 350                    | 1,330             | -----             | -----             | 6,220             | 2,900               | 2,310             | 281  | .66         | .31         | .24              |
| 1925                  | 9,419                      | 1,520                           | 350                    | 1,870             | -----             | -----             | 6,150             | 3,053               | 2,250             | 397  | .65         | .32         | .24              |
| 1926                  | 9,542                      | 1,085                           | 355                    | 1,440             | 220               | 610               | 5,300             | 3,750               | 2,950             | 302  | .56         | .39         | .31              |
| 1927                  | 9,844                      | 1,330                           | 360                    | 1,690             | 180               | 560               | 7,900             | 3,750               | 2,000             | 343  | .80         | .38         | .20              |
| 1928                  | 10,479                     | 1,430                           | 370                    | 1,800             | 170               | 600               | 7,200             | 3,850               | 2,030             | 344  | .69         | .37         | .19              |
| 1929                  | 11,097                     | 1,360                           | 330                    | 1,690             | 200               | 600               | 6,400             | 3,900               | 3,350             | 305  | .58         | .35         | .30              |
| 1930                  | 11,228                     | 665                             | 305                    | 970               | 190               | 620               | 5,400             | 3,900               | 4,540             | 173  | .48         | .35         | .40              |
| 1931                  | 11,583                     | 1,460                           | 280                    | 1,740             | 230               | 640               | 5,600             | 4,200               | 4,550             | 300  | .48         | .36         | .39              |
| 1932                  | 12,074                     | 2,150                           | 300                    | 2,450             | 210               | 640               | 6,400             | 4,200               | 4,200             | 406  | .53         | .35         | .35              |
| 1933                  | 12,248                     | 1,040                           | 310                    | 1,350             | 250               | 600               | 6,000             | 4,400               | 4,950             | 220  | .49         | .36         | .40              |
| 1934                  | 11,446                     | 570                             | 100                    | 670               | 210               | 580               | 4,600             | 4,300               | 5,420             | 117  | .40         | .38         | .47              |
| 1935                  | 11,398                     | 1,935                           | 345                    | 2,280             | 240               | 570               | 6,400             | 5,000               | 3,450             | 400  | .56         | .44         | .30              |
| 1936                  | 11,330                     | 495                             | 105                    | 600               | 230               | 540               | 6,100             | 4,500               | 3,870             | 106  | .54         | .40         | .34              |
| 1937                  | 11,438                     | 1,605                           | 335                    | 1,940             | 280               | 570               | 6,050             | 5,150               | 3,470             | 339  | .53         | .45         | .30              |
| 1938                  | 12,159                     | 1,735                           | 325                    | 2,060             | 230               | 570               | 8,000             | 5,300               | 2,230             | 339  | .66         | .44         | .18              |
| 1939                  | 12,629                     | 1,709                           | 251                    | 1,960             | 230               | 560               | 9,400             | 5,000               | 2,370             | 310  | .74         | .40         | .19              |
| 1940                  | 13,102                     | 2,259                           | 246                    | 2,505             | 260               | 580               | 10,300            | 5,400               | 2,150             | 382  | .79         | .41         | .16              |
| 1941                  | 13,701                     | 2,765                           | 285                    | 3,050             | 220               | 567               | 9,350             | 5,480               | 3,640             | 445  | .68         | .40         | .27              |
| 1942                  | 14,314                     | 3,475                           | 285                    | 3,760             | 290               | 550               | 9,750             | 5,200               | 4,290             | 525  | .68         | .36         | .30              |
| 1943                  | 14,814                     | 3,475                           | 300                    | 3,775             | 300               | 520               | 10,300            | 5,386               | 4,100             | 510  | .70         | .36         | .28              |
| 1944                  | 14,364                     | 3,240                           | 295                    | 3,535             | 240               | 490               | 9,842             | 5,386               | 4,070             | 492  | .69         | .37         | .28              |
| 1945                  | 13,191                     | 3,115                           | 285                    | 3,400             | 190               | 455               | 10,135            | 5,300               | 2,560             | 516  | .77         | .40         | .19              |
| 1946                  | 12,961                     | 3,080                           | 335                    | 3,415             | 130               | 450               | 11,000            | 5,500               | 1,500             | 527  | .85         | .42         | .12              |
| 1947                  | 12,618                     | 2,515                           | 285                    | 2,800             | 130               | 400               | 11,330            | 5,486               | 900               | 444  | .90         | .43         | .07              |
| 1948                  | 12,416                     | 2,856                           | 280                    | 3,136             | 100               | 400               | 11,180            | 5,900               | 870               | 505  | .90         | .48         | .07              |
| 1949                  | 12,595                     | 2,609                           | 270                    | 2,879             | 126               | 544               | 11,369            | 4,550               | 1,090             | 457  | .90         | .36         | .09              |
| 1950                  | 12,776                     | 2,865                           | 335                    | 3,200             | 100               | 540               | 12,800            | 5,090               | 850               | 501  | 1.00        | .40         | .07              |
| 1951                  | 13,106                     | 3,103                           | 397                    | 3,500             | 125               | 520               | 13,700            | 4,700               | 435               | 534  | 1.05        | .36         | .03              |
| 1952                  | 13,331                     | 3,100                           | 400                    | 3,500             | 70                | 525               | 13,300            | 5,300               | 950               | 525  | 1.00        | .40         | .07              |
| 1953                  | 13,191                     | 3,065                           | 385                    | 3,450             | 40                | 520               | 13,200            | 5,300               | 850               | 523  | 1.00        | .40         | .06              |
| 1954                  | 12,773                     | 2,770                           | 380                    | 3,150             | 50                | 520               | 12,800            | 5,700               | 600               | 493  | 1.00        | .45         | .05              |
| 1955                  | 12,368                     | 2,960                           | 390                    | 3,350             | 65                | 520               | 12,600            | 5,700               | 400               | 542  | 1.02        | .46         | .03              |
| 1956                  | 12,268                     | 2,925                           | 375                    | 3,300             | 70                | 510               | 12,500            | 5,900               | 300               | 538  | 1.02        | .48         | .02              |

<sup>1</sup> Includes grains or other concentrates fed as such or in mixed or formula feeds. Other dairy cattle includes milk heifers and heifer calves and dairy bulls. See tables 1, 2, 23, and footnotes for kinds of feed included. "Milk" includes milk fed to veal calves as well as to calves and heifers on hand January 1.

<sup>2</sup> Refers to January 1 of feeding year beginning the preceding October 1.



TABLE 49.—All beef cattle: Grain and other concentrates fed, 1909–56<sup>1</sup>

| Year beginning Oct. 1 | Grains                                    |               |                          |                                     |                                  | Commercial byprod-<br>ucts <sup>2</sup> |                |               | All<br>concentrates <sup>3</sup> |
|-----------------------|---|---------------|--------------------------|-------------------------------------|----------------------------------|---|----------------|---------------|----------------------------------|
|                       | Corn,<br>exclud-<br>ing corn<br>in silage | Oats          | Bar-<br>ley <sup>2</sup> | Sor-<br>ghum<br>grains <sup>2</sup> | Wheat<br>and<br>rye <sup>2</sup> | High-<br>protein<br>feeds               | Mill-<br>feeds | Other         |                                  |
|                       | 1,000<br>tons                             | 1,000<br>tons | 1,000<br>tons            | 1,000<br>tons                       | 1,000<br>tons                    | 1,000<br>tons                           | 1,000<br>tons  | 1,000<br>tons | 1,000<br>tons                    |
| 1909.....             | 1,940                                     | 420           | 220                      |                                     |                                  |   |                | 530           | 3,110                            |
| 1910.....             | 2,440                                     | 480           | 190                      |                                     |                                  |   |                | 560           | 3,670                            |
| 1911.....             | 1,470                                     | 400           | 260                      |                                     |                                  |   |                | 600           | 2,730                            |
| 1912.....             | 2,435                                     | 550           | 340                      |                                     |                                  |   |                | 700           | 4,025                            |
| 1913.....             | 1,420                                     | 490           | 240                      |                                     |                                  |   |                | 640           | 2,790                            |
| 1914.....             | 1,700                                     | 420           | 300                      |                                     |                                  |   |                | 670           | 3,090                            |
| 1915.....             | 3,890                                     | 570           | 440                      |                                     |                                  |   |                | 750           | 5,650                            |
| 1916.....             | 3,545                                     | 485           | 270                      |                                     |                                  |   |                | 700           | 5,000                            |
| 1917.....             | 3,220                                     | 570           | 350                      |                                     |                                  |   |                | 750           | 4,890                            |
| 1918.....             | 3,200                                     | 570           | 470                      |                                     |                                  |   |                | 650           | 4,890                            |
| 1919.....             | 3,320                                     | 480           | 380                      |                                     |                                  |   |                | 650           | 4,830                            |
| 1920.....             | 3,960                                     | 570           | 400                      |                                     |                                  |   |                | 600           | 5,530                            |
| 1921.....             | 3,955                                     | 480           | 365                      |                                     |                                  |   |                | 600           | 5,400                            |
| 1922.....             | 3,300                                     | 505           | 385                      |                                     |                                  |   |                | 700           | 4,890                            |
| 1923.....             | 2,990                                     | 540           | 470                      |                                     |                                  |   |                | 700           | 4,700                            |
| 1924.....             | 2,070                                     | 600           | 420                      |                                     |                                  |   |                | 800           | 3,890                            |
| 1925.....             | 3,720                                     | 600           | 380                      |                                     |                                  | 300                                     |                | 700           | 5,700                            |
| 1926.....             | 2,540                                     | 500           | 190                      | 210                                 | 25                               | 745                                     | 200            | 350           | 4,760                            |
| 1927.....             | 2,785                                     | 600           | 255                      | 175                                 | 35                               | 605                                     | 250            | 325           | 5,030                            |
| 1928.....             | 2,460                                     | 735           | 310                      | 140                                 | 35                               | 690                                     | 250            | 300           | 4,920                            |
| 1929.....             | 3,275                                     | 320           | 310                      | 85                                  | 60                               | 615                                     | 200            | 255           | 5,120                            |
| 1930.....             | 2,875                                     | 455           | 310                      | 65                                  | 100                              | 530                                     | 200            | 265           | 4,800                            |
| 1931.....             | 4,620                                     | 690           | 235                      | 125                                 | 90                               | 495                                     | 85             | 250           | 6,590                            |
| 1932.....             | 5,305                                     | 670           | 265                      | 115                                 | 70                               | 480                                     | 95             | 260           | 7,260                            |
| 1933.....             | 3,720                                     | 385           | 75                       | 95                                  | 60                               | 580                                     | 100            | 265           | 5,280                            |
| 1934.....             | 1,765                                     | 175           | 65                       | 30                                  | 65                               | 640                                     | 75             | 125           | 2,940                            |
| 1935.....             | 3,800                                     | 425           | 165                      | 105                                 | 75                               | 530                                     | 110            | 290           | 5,500                            |
| 1936.....             | 1,990                                     | 70            | 85                       | 50                                  | 40                               | 720                                     | 85             | 155           | 3,195                            |
| 1937.....             | 4,052                                     | 325           | 155                      | 130                                 | 90                               | 678                                     | 110            | 290           | 5,830                            |
| 1938.....             | 4,660                                     | 625           | 210                      | 120                                 | 80                               | 655                                     | 110            | 290           | 6,750                            |
| 1939.....             | 4,885                                     | 550           | 240                      | 80                                  | 65                               | 670                                     | 120            | 280           | 6,890                            |
| 1940.....             | 5,463                                     | 690           | 255                      | 290                                 | 40                               | 875                                     | 120            | 287           | 8,020                            |
| 1941.....             | 5,485                                     | 645           | 290                      | 320                                 | 65                               | 950                                     | 105            | 275           | 8,135                            |
| 1942.....             | 6,115                                     | 800           | 465                      | 310                                 | 95                               | 875                                     | 100            | 250           | 9,010                            |
| 1943.....             | 6,155                                     | 700           | 300                      | 300                                 | 110                              | 1,100                                   | 110            | 250           | 9,025                            |
| 1944.....             | 6,260                                     | 700           | 295                      | 335                                 | 70                               | 1,020                                   | 125            | 280           | 9,085                            |
| 1945.....             | 7,400                                     | 980           | 265                      | 190                                 | 65                               | 1,115                                   | 135            | 450           | 10,600                           |
| 1946.....             | 7,082                                     | 810           | 185                      | 80                                  | 30                               | 1,064                                   | 159            | 470           | 9,880                            |
| 1947.....             | 5,335                                     | 530           | 205                      | 70                                  | 50                               | 1,075                                   | 105            | 430           | 7,800                            |
| 1948.....             | 7,570                                     | 840           | 235                      | 80                                  | 30                               | 1,300                                   | 130            | 535           | 10,720                           |
| 1949.....             | 7,485                                     | 786           | 203                      | 70                                  | 30                               | 1,502                                   | 130            | 598           | 10,804                           |
| 1950.....             | 9,365                                     | 850           | 200                      | 175                                 | 30                               | 1,720                                   | 130            | 630           | 13,100                           |
| 1951.....             | 11,551                                    | 920           | 220                      | 140                                 | 30                               | 1,985                                   | 120            | 734           | 15,700                           |
| 1952.....             | 10,097                                    | 840           | 195                      | 95                                  | 30                               | 1,870                                   | 130            | 1,103         | 14,360                           |
| 1953.....             | 9,618                                     | 850           | 240                      | 95                                  | 30                               | 1,925                                   | 125            | 1,617         | 14,500                           |
| 1954.....             | 9,702                                     | 1,070         | 370                      | 150                                 | 30                               | 1,965                                   | 125            | 1,688         | 15,100                           |
| 1955.....             | 10,945                                    | 1,105         | 465                      | 180                                 | 30                               | 2,035                                   | 115            | 1,425         | 16,300                           |
| 1956.....             | 11,170                                    | 935           | 415                      | 200                                 | 30                               | 2,175                                   | 125            | 1,450         | 16,500                           |

<sup>1</sup> Includes grain and other concentrates fed as such or in mixed or formula feeds. See tables 9 and 50 for the number of beef cattle.

<sup>2</sup> Before 1926, barley, sorghum grains, wheat, and rye are grouped together under barley.

<sup>3</sup> See table 23 for feeds included. High-protein feeds and millfeeds grouped with other commercial by-products, 1909–25.



TABLE 50.—All beef cattle: Number and harvested roughage and seeds fed, 1909–56

| Year beginning Oct. 1 | Number<br>beef cattle<br>Jan. 1 <sup>1</sup> | Hay               | Silage and<br>wet pulp <sup>2</sup> | Corn<br>stover and<br>sorghum<br>forage <sup>3</sup> | Straw <sup>3</sup> | Seeds <sup>4</sup> |
|-----------------------|--|-------------------|-------------------------------------|--|--------------------|--------------------|
|                       | <i>1,000 head</i>                            | <i>1,000 tons</i> | <i>1,000 tons</i>                   | <i>1,000 tons</i>                                    | <i>1,000 tons</i>  | <i>1,000 tons</i>  |
| 1909.....             | 31,143                                       | 8,800             | 770                                 | 5,500  | 10,500             | .....              |
| 1910.....             | 29,403                                       | 5,300             | 930                                 | 6,260  | 11,600             | .....              |
| 1911.....             | 27,748                                       | 5,863             | 1,090                               | 4,950  | 11,000             | .....              |
| 1912.....             | 28,512                                       | 8,200             | 1,400                               | 6,510  | 7,600              | .....              |
| 1913.....             | 31,040                                       | 8,492             | 1,860                               | 4,650  | 11,200             | .....              |
| 1914.....             | 34,779                                       | 9,100             | 2,330                               | 5,340  | 13,700             | .....              |
| 1915.....             | 37,686                                       | 10,500            | 2,800                               | 7,150  | 12,300             | .....              |
| 1916.....             | 40,567                                       | 12,400            | 3,260                               | 5,750  | 14,400             | .....              |
| 1917.....             | 42,104                                       | 10,114            | 3,570                               | 7,650  | 16,000             | .....              |
| 1918.....             | 41,149                                       | 9,300             | 3,880                               | 5,490  | 18,000             | .....              |
| 1919.....             | 39,149                                       | 11,800            | 4,400                               | 7,430  | 11,800             | .....              |
| 1920.....             | 37,918                                       | 9,500             | 4,526                               | 8,600  | 11,900             | .....              |
| 1921.....             | 37,604                                       | 11,450            | 4,379                               | 8,720  | 9,500              | .....              |
| 1922.....             | 35,891                                       | 11,500            | 4,400                               | 7,670  | 9,100              | .....              |
| 1923.....             | 34,124                                       | 10,400            | 4,600                               | 8,015  | 8,400              | .....              |
| 1924.....             | 31,325                                       | 10,100            | 4,600                               | 6,250  | 8,200              | .....              |
| 1925.....             | 28,747                                       | 9,300             | 4,150                               | 6,000  | 7,100              | .....              |
| 1926.....             | 26,385                                       | 8,200             | 3,900                               | 4,830  | 7,500              | 340                |
| 1927.....             | 25,247                                       | 8,800             | 3,700                               | 8,050  | 3,000              | 280                |
| 1928.....             | 25,958                                       | 8,177             | 3,750                               | 8,230  | 3,900              | 280                |
| 1929.....             | 26,874                                       | 9,300             | 3,750                               | 7,073  | 4,700              | 310                |
| 1930.....             | 27,982                                       | 8,200             | 3,800                               | 4,616  | 9,000              | .....              |
| 1931.....             | 29,322                                       | 7,450             | 4,000                               | 6,070  | 9,400              | 370                |
| 1932.....             | 32,270                                       | 8,800             | 4,200                               | 7,321  | 9,300              | 330                |
| 1933.....             | 35,190                                       | 8,995             | 4,500                               | 6,308  | 12,800             | 400                |
| 1934.....             | 31,318                                       | 5,610             | 4,235                               | 3,447  | 15,600             | 310                |
| 1935.....             | 31,253                                       | 9,900             | 5,550                               | 8,270  | 6,000              | 350                |
| 1936.....             | 30,119                                       | 8,900             | 4,800                               | 4,340  | 11,300             | 340                |
| 1937.....             | 29,345                                       | 8,850             | 5,600                               | 6,413  | 7,300              | 420                |
| 1938.....             | 29,270                                       | 9,861             | 5,550                               | 9,013  | 7,700              | 340                |
| 1939.....             | 30,740                                       | 11,200            | 5,200                               | 9,046  | 5,400              | 330                |
| 1940.....             | 33,200                                       | 12,413            | 6,400                               | 10,180   | 4,000              | 380                |
| 1941.....             | 36,011                                       | 11,580            | 6,627                               | 10,919   | 6,300              | 320                |
| 1942.....             | 39,752                                       | 16,750            | 6,280                               | 10,330   | 5,300              | 430                |
| 1943.....             | 42,816                                       | 18,050            | 6,010                               | 8,910  | 8,000              | 460                |
| 1944.....             | 43,439                                       | 17,250            | 6,100                               | 8,640  | 9,800              | 350                |
| 1945.....             | 42,523                                       | 21,650            | 6,119                               | 7,353  | 6,000              | 290                |
| 1946.....             | 41,751                                       | 22,810            | 6,440                               | 6,791  | 4,000              | 210                |
| 1947.....             | 39,938                                       | 22,620            | 6,200                               | 4,516  | 5,200              | 200                |
| 1948.....             | 40,552                                       | 22,970            | 7,400                               | 5,660  | 4,000              | 157                |
| 1949.....             | 41,515                                       | 23,082            | 8,362                               | 4,420  | 5,500              | 298                |
| 1950.....             | 45,739                                       | 28,651            | 10,453                              | 4,897  | 5,180              | 202                |
| 1951.....             | 51,906                                       | 33,662            | 9,811                               | 4,707  | 6,350              | 250                |
| 1952.....             | 57,361                                       | 33,168            | 12,085                              | 3,889  | 10,560             | 169                |
| 1953.....             | 58,592                                       | 34,419            | 12,602                              | 4,855  | 9,920              | 89                 |
| 1954.....             | 60,357                                       | 36,520            | 14,432                              | 4,593  | 9,950              | 120                |
| 1955.....             | 61,223                                       | 39,593            | 14,508                              | 8,147  | 4,760              | 155                |
| 1956.....             | 59,870                                       | 38,100            | 14,992                              | 6,023  | 7,800              | 160                |

<sup>1</sup> Refers to the number on farms January 1 of the feeding year beginning the preceding October 1.

<sup>2</sup> Corn, sorghum, and grass silage, and wet beet and citrus pulp.

<sup>3</sup> See footnote to table 2.

<sup>4</sup> See table 24 for seeds included.

TABLE 51.—Beef cattle, grain-fattened: Number and feeds fed (except pasture), 1929-56<sup>1</sup>

| Year beginning Oct. 1 | Number on feed Jan. 1 | Feed fed in years               |                       |                  |            |            |                          |                  | Feed fed per head on feed Jan. 1 <sup>2</sup> |      |                          |                  |
|-----------------------|-----------------------|---------------------------------|-----------------------|------------------|------------|------------|--------------------------|------------------|---|------|--------------------------|------------------|
|                       |                       | Grain, excluding corn in silage | Commercial byproducts | All concentrates | Seeds      | Hay        | Silage and wet beet pulp | Stover and straw | Concentrates                                  | Hay  | Silage and wet beet pulp | Stover and straw |
|                       | 1,000 head            | 1,000 tons                      | 1,000 tons            | 1,000 tons       | 1,000 tons | 1,000 tons | 1,000 tons               | 1,000 tons       | Pounds  | Tons | Tons                     | Tons             |
| 1929                  | 3,113                 | 3,270                           | 310                   | 3,580            | -----      | 2,300      | 1,850                    | 250              | 2,300   | 0.74 | 0.59                     | 0.08             |
| 1930                  | 3,025                 | 3,090                           | 310                   | 3,400            | -----      | 2,000      | 1,800                    | 210              | 2,248   | .66  | .60                      | .07              |
| 1931                  | 2,878                 | 3,375                           | 285                   | 3,660            | -----      | 1,850      | 1,800                    | 250              | 2,543   | .64  | .63                      | .09              |
| 1932                  | 3,080                 | 3,660                           | 300                   | 3,960            | -----      | 2,100      | 1,850                    | 281              | 2,571   | .68  | .60                      | .09              |
| 1933                  | 2,890                 | 3,075                           | 285                   | 3,360            | -----      | 2,100      | 1,900                    | 250              | 2,325   | .73  | .66                      | .09              |
| 1934                  | 2,215                 | 1,805                           | 265                   | 2,070            | -----      | 1,300      | 1,535                    | 167              | 1,869   | .59  | .69                      | .08              |
| 1935                  | 3,202                 | 3,685                           | 365                   | 4,050            | -----      | 2,200      | 2,450                    | 270              | 2,530   | .69  | .77                      | .08              |
| 1936                  | 2,759                 | 2,075                           | 350                   | 2,425            | -----      | 1,900      | 2,050                    | 160              | 1,758   | .69  | .74                      | .06              |
| 1937                  | 3,336                 | 3,870                           | 430                   | 4,300            | -----      | 2,350      | 2,700                    | 235              | 2,578   | .70  | .81                      | .07              |
| 1938                  | 3,303                 | 3,780                           | 430                   | 4,210            | -----      | 2,650      | 2,600                    | 280              | 2,549   | .80  | .79                      | .08              |
| 1939                  | 3,633                 | 3,970                           | 470                   | 4,440            | -----      | 2,900      | 2,500                    | 270              | 2,444   | .80  | .69                      | .07              |
| 1940                  | 4,065                 | 4,885                           | 615                   | 5,500            | -----      | 3,213      | 3,100                    | 310              | 2,706   | .79  | .76                      | .08              |
| 1941                  | 4,185                 | 5,305                           | 645                   | 5,950            | -----      | 3,530      | 3,220                    | 330              | 2,843   | .84  | .77                      | .08              |
| 1942                  | 4,445                 | 5,470                           | 670                   | 6,140            | -----      | 4,150      | 3,050                    | 300              | 2,763   | .93  | .69                      | .07              |
| 1943                  | 4,015                 | 5,490                           | 690                   | 6,180            | -----      | 3,750      | 2,680                    | 250              | 3,078   | .93  | .67                      | .06              |
| 1944                  | 4,411                 | 5,690                           | 770                   | 6,460            | -----      | 4,150      | 2,700                    | 240              | 2,929   | .94  | .61                      | .05              |
| 1945                  | 4,211                 | 6,665                           | 935                   | 7,600            | -----      | 4,400      | 2,800                    | 200              | 3,610   | 1.04 | .66                      | .05              |
| 1946                  | 4,322                 | 6,212                           | 988                   | 7,200            | -----      | 4,900      | 3,040                    | 190              | 3,332   | 1.13 | .70                      | .04              |
| 1947                  | 3,821                 | 4,995                           | 805                   | 5,800            | -----      | 4,550      | 2,800                    | 130              | 3,036   | 1.19 | .73                      | .03              |
| 1948                  | 4,540                 | 7,065                           | 1,135                 | 8,200            | -----      | 5,370      | 3,600                    | 160              | 3,612   | 1.18 | .79                      | .04              |
| 1949                  | 4,390                 | 6,421                           | 1,142                 | 7,563            | -----      | 5,288      | 3,312                    | 120              | 3,446   | 1.20 | .75                      | .03              |
| 1950                  | 4,534                 | 6,820                           | 1,180                 | 8,000            | -----      | 5,470      | 4,400                    | 120              | 3,529   | 1.21 | .97                      | .03              |
| 1951                  | 4,961                 | 7,976                           | 1,324                 | 9,300            | -----      | 6,200      | 4,600                    | 110              | 3,749   | 1.25 | .92                      | .02              |
| 1952                  | 5,754                 | 7,637                           | 1,563                 | 9,200            | -----      | 6,500      | 5,400                    | 90               | 3,198   | 1.13 | .94                      | .02              |
| 1953                  | 5,364                 | 7,378                           | 1,822                 | 9,200            | -----      | 6,800      | 5,600                    | 105              | 3,430   | 1.27 | 1.04                     | .02              |
| 1954                  | 5,786                 | 8,287                           | 2,013                 | 10,300           | -----      | 7,800      | 6,500                    | 100              | 3,560   | 1.35 | 1.12                     | .02              |
| 1955                  | 5,880                 | 8,855                           | 1,845                 | 10,700           | -----      | 7,800      | 6,600                    | 130              | 3,639   | 1.34 | 1.13                     | .02              |
| 1956                  | 6,099                 | 9,095                           | 2,005                 | 11,100           | -----      | 8,000      | 6,800                    | 100              | 3,640   | 1.31 | 1.12                     | .02              |

<sup>1</sup>Includes grains or other concentrates fed as such or in mixed or formula feeds. The number of cattle on feed January 1 relates to the January within the feeding year beginning October 1. For instance, the number of cattle on feed January 1 in the year beginning October 1, 1950, is the number on feed January 1, 1951. It should be remembered that the cattle on feed January 1 are not all the cattle on feed during the year and that the total number put on feed in relation to the number on feed January 1 has been increasing in the last 10 years. See tables 1, 2, 23, and footnotes for kinds of feeds included.

<sup>2</sup>Total feed fed to all grain-fattened cattle in the year, divided by the number on feed January 1.

TABLE 52.—Beef cattle, other than grain-fattened: Number and feeds fed (except pasture), 1929-56<sup>1</sup>

| Year beginning Oct. 1 | Number on farms Jan. 1 <sup>2</sup> | Feed fed in year                |                       |                  |            |            |                          |                  | Feed fed per head on farms Jan. 1 |      |                          |                  |
|-----------------------|-------------------------------------|---------------------------------|-----------------------|------------------|------------|------------|--------------------------|------------------|-----------------------------------|------|--------------------------|------------------|
|                       |                                     | Grain, excluding corn in silage | Commercial byproducts | All concentrates | Seeds      | Hay        | Silage and wet beet pulp | Stover and straw | Concentrates                      | Hay  | Silage and wet beet pulp | Straw and stover |
|                       | 1,000 head                          | 1,000 tons                      | 1,000 tons            | 1,000 tons       | 1,000 tons | 1,000 tons | 1,000 tons               | 1,000 tons       | Pounds                            | Tons | Tons                     | Tons             |
| 1929                  | 23,761                              | 780                             | 760                   | 1,540            | 310        | 7,000      | 1,900                    | 11,523           | 130                               | 0.29 | 0.08                     | 0.48             |
| 1930                  | 24,957                              | 715                             | 685                   | 1,400            | 300        | 6,200      | 2,000                    | 13,406           | 112                               | .25  | .08                      | .54              |
| 1931                  | 26,444                              | 2,385                           | 545                   | 2,930            | 370        | 5,600      | 2,200                    | 15,220           | 222                               | .21  | .08                      | .58              |
| 1932                  | 29,190                              | 2,765                           | 535                   | 3,300            | 330        | 6,700      | 2,350                    | 16,340           | 226                               | .23  | .08                      | .56              |
| 1933                  | 32,300                              | 1,260                           | 660                   | 1,920            | 400        | 6,895      | 2,600                    | 18,858           | 119                               | .21  | .08                      | .58              |
| 1934                  | 29,103                              | 295                             | 575                   | 870              | 310        | 4,310      | 2,700                    | 18,880           | 60                                | .15  | .09                      | .65              |
| 1935                  | 28,051                              | 830                             | 565                   | 1,450            | 350        | 7,700      | 3,100                    | 14,000           | 103                               | .27  | .11                      | .50              |
| 1936                  | 27,360                              | 160                             | 610                   | 770              | 340        | 7,000      | 2,750                    | 15,480           | 56                                | .26  | .10                      | .57              |
| 1937                  | 26,009                              | 882                             | 648                   | 1,530            | 420        | 6,500      | 2,900                    | 13,478           | 118                               | .25  | .11                      | .52              |
| 1938                  | 25,967                              | 1,915                           | 625                   | 2,540            | 340        | 7,211      | 2,950                    | 16,433           | 196                               | .28  | .11                      | .63              |
| 1939                  | 27,107                              | 1,850                           | 600                   | 2,450            | 330        | 8,300      | 2,700                    | 14,176           | 181                               | .31  | .10                      | .52              |
| 1940                  | 29,135                              | 1,858                           | 667                   | 2,525            | 380        | 9,200      | 3,300                    | 13,870           | 173                               | .32  | .11                      | .48              |
| 1941                  | 31,826                              | 1,500                           | 685                   | 2,185            | 320        | 8,050      | 3,407                    | 16,889           | 137                               | .25  | .11                      | .53              |
| 1942                  | 35,307                              | 2,315                           | 545                   | 2,860            | 430        | 12,600     | 3,230                    | 15,330           | 162                               | .36  | .09                      | .43              |
| 1943                  | 38,801                              | 2,075                           | 770                   | 2,845            | 460        | 14,300     | 3,330                    | 16,660           | 147                               | .37  | .09                      | .43              |
| 1944                  | 39,028                              | 1,970                           | 655                   | 2,625            | 350        | 13,100     | 3,400                    | 18,200           | 135                               | .34  | .09                      | .47              |
| 1945                  | 38,312                              | 2,235                           | 765                   | 3,000            | 290        | 17,250     | 3,319                    | 13,153           | 157                               | .45  | .09                      | .34              |
| 1946                  | 37,429                              | 1,975                           | 575                   | 2,680            | 210        | 17,910     | 3,400                    | 10,601           | 143                               | .48  | .09                      | .28              |
| 1947                  | 36,117                              | 1,195                           | 805                   | 2,000            | 200        | 18,070     | 3,400                    | 9,586            | 111                               | .50  | .09                      | .27              |
| 1948                  | 36,012                              | 1,690                           | 830                   | 2,520            | 157        | 17,600     | 3,800                    | 9,500            | 140                               | .49  | .11                      | .26              |
| 1949                  | 37,125                              | 2,153                           | 1,088                 | 3,241            | 298        | 17,794     | 5,050                    | 9,800            | 175                               | .48  | .14                      | .26              |
| 1950                  | 41,205                              | 3,800                           | 1,300                 | 5,100            | 202        | 23,181     | 6,053                    | 9,957            | 248                               | .56  | .15                      | .24              |
| 1951                  | 46,945                              | 4,885                           | 1,515                 | 6,400            | 250        | 27,462     | 5,211                    | 10,947           | 273                               | .58  | .11                      | .23              |
| 1952                  | 51,607                              | 3,620                           | 1,540                 | 5,160            | 169        | 26,668     | 6,685                    | 14,359           | 200                               | .52  | .13                      | .28              |
| 1953                  | 53,228                              | 3,455                           | 1,845                 | 5,300            | 89         | 27,619     | 7,002                    | 14,650           | 199                               | .52  | .13                      | .27              |
| 1954                  | 54,571                              | 3,035                           | 1,765                 | 4,800            | 120        | 28,720     | 7,932                    | 14,443           | 176                               | .53  | .15                      | .26              |
| 1955                  | 55,343                              | 3,870                           | 1,730                 | 5,600            | 155        | 31,793     | 7,908                    | 12,777           | 202                               | .57  | .14                      | .23              |
| 1956                  | 53,771                              | 3,655                           | 1,745                 | 5,400            | 160        | 30,100     | 8,192                    | 13,723           | 201                               | .56  | .15                      | .26              |

<sup>1</sup> Includes grain or other concentrates fed as such or in mixed or formula feeds. See tables 1, 2, and 23, and footnotes for kinds of feeds included.

<sup>2</sup> Computed by subtracting number of milk cows, other dairy cattle, and cattle on feed from all cattle. See footnote 2, table 48, for number January 1.

TABLE 53.—All sheep and lambs: Number and concentrates fed, 1909–56<sup>1</sup>

| Year beginning Oct. 1 | Number on farms Jan. 1 <sup>2</sup> | Grains                         |            |            |                             |               | Commercial byproducts <sup>4</sup> |            |            | All concentrates |
|-----------------------|-------------------------------------|--------------------------------|------------|------------|-----------------------------|---------------|------------------------------------|------------|------------|------------------|
|                       |                                     | Corn, excluding corn in silage | Oats       | Barley     | Sorghum grains <sup>3</sup> | Wheat and rye | Oil seed meals                     | Mill-feeds | Other      |                  |
|                       | 1,000 head                          | 1,000 tons                     | 1,000 tons | 1,000 tons | 1,000 tons                  | 1,000 tons    | 1,000 tons                         | 1,000 tons | 1,000 tons | 1,000 tons       |
| 1909.....             | 50,239                              | 605                            | 280        | 90         | —                           | —             | —                                  | —          | 85         | 1,060            |
| 1910.....             | 50,555                              | 570                            | 320        | 80         | —                           | —             | —                                  | —          | 90         | 1,060            |
| 1911.....             | 47,897                              | 450                            | 270        | 110        | —                           | —             | —                                  | —          | 90         | 920              |
| 1912.....             | 44,652                              | 510                            | 350        | 150        | —                           | —             | —                                  | —          | 90         | 1,100            |
| 1913.....             | 43,089                              | 270                            | 320        | 100        | —                           | —             | —                                  | —          | 90         | 780              |
| 1914.....             | 40,513                              | 200                            | 280        | 130        | —                           | —             | —                                  | —          | 100        | 710              |
| 1915.....             | 40,010                              | 194                            | 370        | 190        | —                           | —             | —                                  | —          | 100        | 854              |
| 1916.....             | 38,886                              | 115                            | 320        | 115        | —                           | —             | —                                  | —          | 100        | 650              |
| 1917.....             | 39,664                              | 210                            | 380        | 150        | —                           | —             | —                                  | —          | 100        | 840              |
| 1918.....             | 41,875                              | 100                            | 380        | 200        | —                           | —             | —                                  | —          | 100        | 780              |
| 1919.....             | 40,743                              | 220                            | 320        | 160        | —                           | —             | —                                  | —          | 100        | 800              |
| 1920.....             | 39,479                              | 300                            | 380        | 170        | —                           | —             | —                                  | —          | 100        | 950              |
| 1921.....             | 36,922                              | 215                            | 320        | 155        | —                           | —             | —                                  | —          | 100        | 790              |
| 1922.....             | 36,803                              | 160                            | 335        | 165        | —                           | —             | —                                  | —          | 100        | 760              |
| 1923.....             | 37,139                              | 150                            | 360        | 200        | —                           | —             | —                                  | —          | 100        | 810              |
| 1924.....             | 38,543                              | 130                            | 400        | 180        | —                           | —             | —                                  | —          | 100        | 810              |
| 1925.....             | 40,363                              | 190                            | 530        | 160        | —                           | —             | —                                  | —          | 120        | 1,000            |
| 1926.....             | 42,415                              | 220                            | 450        | 150        | 30                          | —             | 85                                 | —          | 55         | 990              |
| 1927.....             | 45,258                              | 290                            | 400        | 200        | 35                          | —             | 90                                 | —          | 45         | 1,060            |
| 1928.....             | 48,381                              | 205                            | 430        | 310        | 25                          | —             | 100                                | 25         | 35         | 1,130            |
| 1929.....             | 51,565                              | 385                            | 340        | 310        | 15                          | —             | 100                                | 25         | 35         | 1,210            |
| 1930.....             | 53,233                              | 140                            | 385        | 310        | 15                          | —             | 90                                 | 25         | 35         | 1,000            |
| 1931.....             | 53,902                              | 795                            | 195        | 160        | 25                          | —             | 60                                 | 20         | 35         | 1,290            |
| 1932.....             | 53,054                              | 825                            | 190        | 180        | 20                          | —             | 60                                 | 25         | 40         | 1,340            |
| 1933.....             | 53,503                              | 685                            | 110        | 50         | 20                          | —             | 70                                 | 25         | 40         | 1,000            |
| 1934.....             | 51,808                              | 170                            | 100        | 60         | 5                           | —             | 90                                 | 25         | 40         | 490              |
| 1935.....             | 51,136                              | 680                            | 380        | 105        | 20                          | —             | 90                                 | 25         | 40         | 1,340            |
| 1936.....             | 50,848                              | 90                             | 150        | 70         | 10                          | —             | 100                                | 25         | 40         | 485              |
| 1937.....             | 51,063                              | 470                            | 480        | 100        | 25                          | —             | 100                                | 25         | 40         | 1,240            |
| 1938.....             | 51,348                              | 695                            | 180        | 135        | 25                          | —             | 100                                | 25         | 40         | 1,200            |
| 1939.....             | 52,107                              | 630                            | 150        | 145        | 20                          | —             | 100                                | 45         | 40         | 1,130            |
| 1940.....             | 53,920                              | 601                            | 135        | 165        | 35                          | —             | 105                                | 55         | 44         | 1,140            |
| 1941.....             | 56,213                              | 675                            | 125        | 185        | 45                          | —             | 110                                | 50         | 40         | 1,230            |
| 1942.....             | 55,150                              | 760                            | 110        | 185        | 10                          | —             | 110                                | 45         | 35         | 1,255            |
| 1943.....             | 50,782                              | 695                            | 100        | 160        | 10                          | —             | 100                                | 40         | 30         | 1,135            |
| 1944.....             | 46,520                              | 740                            | 90         | 120        | 10                          | —             | 90                                 | 40         | 30         | 1,120            |
| 1945.....             | 42,362                              | 665                            | 130        | 110        | 5                           | —             | 85                                 | 35         | 30         | 1,060            |
| 1946.....             | 37,498                              | 595                            | 105        | 80         | 5                           | —             | 75                                 | 35         | 30         | 925              |
| 1947.....             | 34,337                              | 525                            | 95         | 85         | 5                           | —             | 70                                 | 30         | 40         | 850              |
| 1948.....             | 30,943                              | 417                            | 110        | 100        | 5                           | —             | 65                                 | 28         | 35         | 760              |
| 1949.....             | 29,826                              | 413                            | 100        | 86         | 2                           | —             | 64                                 | 24         | 35         | 724              |
| 1950.....             | 30,633                              | 395                            | 100        | 85         | 5                           | —             | 65                                 | 25         | 35         | 710              |
| 1951.....             | 31,982                              | 490                            | 100        | 85         | —                           | —             | 70                                 | 25         | 50         | 820              |
| 1952.....             | 31,900                              | 520                            | 90         | 75         | —                           | —             | 70                                 | 25         | 50         | 830              |
| 1953.....             | 31,356                              | 480                            | 100        | 90         | —                           | —             | 75                                 | 25         | 60         | 830              |
| 1954.....             | 31,582                              | 450                            | 110        | 120        | —                           | —             | 75                                 | 25         | 70         | 850              |
| 1955.....             | 31,273                              | 415                            | 115        | 135        | —                           | —             | 75                                 | 20         | 70         | 830              |
| 1956.....             | 30,838                              | 425                            | 100        | 130        | —                           | —             | 70                                 | 20         | 70         | 815              |

<sup>1</sup> Includes grain and other concentrates fed as such or in mixed or formula feeds.

<sup>2</sup> See footnote 2, table 48, as to number January 1.

<sup>3</sup> Before 1926, barley and sorghum grains, are grouped together under barley.

<sup>4</sup> See tables 1, 2, and 23 for feeds included. Oilseed meals and millfeeds grouped with "other" commercial byproducts, 1909–25.



TABLE 54.—All sheep and lambs: Hay and other roughage fed (except pasture), 1909–56 <sup>1</sup>

| Year beginning Oct. 1 | Hay        | Silage and wet pulp <sup>2</sup> | Corn stover and sorghum forage <sup>3</sup> | Straw <sup>3</sup> | Feed fed per head on farms Jan. 1 <sup>4</sup> |      |                     |                  |
|-----------------------|------------|----------------------------------|---|--------------------|--|------|---------------------|------------------|
|                       |            |                                  |   |                    | Concentrates                                   | Hay  | Silage and wet pulp | Stover and straw |
|                       | 1,000 tons | 1,000 tons                       | 1,000 tons                                  | 1,000 tons         | Pounds   | Tons | Tons                | Tons             |
| 1909                  | 3,600      | 120                              | 1,850                                       | 1,000              | 42   | 0.07 |                     | 0.06             |
| 1910                  | 4,100      | 140                              | 2,000                                       | 500                | 42   | .08  |                     | .05              |
| 1911                  | 2,650      | 160                              | 1,750                                       | 1,700              | 38   | .06  |                     | .07              |
| 1912                  | 3,300      | 200                              | 2,060                                       | 400                | 49   | .07  |                     | .06              |
| 1913                  | 3,500      | 260                              | 1,450                                       | 500                | 36   | .08  | 0.01                | .05              |
| 1914                  | 3,300      | 330                              | 1,750                                       | 800                | 35   | .08  | .01                 | .06              |
| 1915                  | 3,600      | 400                              | 1,900                                       | 400                | 43   | .09  | .01                 | .06              |
| 1916                  | 3,750      | 480                              | 1,450                                       | 300                | 33   | .10  | .01                 | .05              |
| 1917                  | 3,370      | 530                              | 1,400                                       | 600                | 42   | .08  | .01                 | .05              |
| 1918                  | 3,350      | 570                              | 1,430                                       | 1,000              | 37   | .08  | .01                 | .06              |
| 1919                  | 3,900      | 650                              | 1,840                                       | 200                | 39   | .10  | .01                 | .05              |
| 1920                  | 3,370      | 670                              | 2,100                                       | 200                | 48   | .09  | .02                 | .06              |
| 1921                  | 3,690      | 650                              | 1,730                                       |                    | 43   | .10  | .02                 | .05              |
| 1922                  | 3,680      | 670                              | 1,550                                       |                    | 41   | .10  | .02                 | .04              |
| 1923                  | 3,200      | 700                              | 1,680                                       |                    | 44   | .09  | .02                 | .05              |
| 1924                  | 3,850      | 700                              | 1,640                                       |                    | 42   | .10  | .02                 | .04              |
| 1925                  | 3,730      | 740                              | 1,650                                       | 200                | 50   | .09  | .02                 | .05              |
| 1926                  | 3,800      | 850                              | 1,770                                       | 100                | 47   | .09  | .02                 | .04              |
| 1927                  | 4,500      | 900                              | 1,800                                       |                    | 47   | .10  | .02                 | .04              |
| 1928                  | 4,900      | 1,000                            | 1,840                                       |                    | 47   | .10  | .02                 | .04              |
| 1929                  | 4,400      | 1,050                            | 1,760                                       | 300                | 47   | .09  | .02                 | .04              |
| 1930                  | 3,750      | 1,050                            | 1,480                                       | 1,200              | 38   | .07  | .02                 | .05              |
| 1931                  | 3,700      | 1,100                            | 1,760                                       | 1,100              | 48   | .07  | .02                 | .05              |
| 1932                  | 4,000      | 1,050                            | 2,000                                       | 1,000              | 51   | .08  | .02                 | .06              |
| 1933                  | 3,300      | 1,050                            | 1,760                                       | 1,200              | 37   | .06  | .02                 | .06              |
| 1934                  | 2,500      | 1,100                            | 1,250                                       | 2,500              | 19   | .05  | .02                 | .07              |
| 1935                  | 4,000      | 1,300                            | 1,932                                       | 1,000              | 52   | .08  | .03                 | .06              |
| 1936                  | 3,600      | 1,150                            | 1,200                                       | 2,500              | 19   | .07  | .02                 | .07              |
| 1937                  | 3,530      | 1,360                            | 1,730                                       | 1,900              | 49   | .07  | .03                 | .07              |
| 1938                  | 5,150      | 1,307                            | 2,060                                       | 100                | 47   | .10  | .03                 | .04              |
| 1939                  | 5,300      | 1,100                            | 2,000                                       | 200                | 43   | .10  | .03                 | .04              |
| 1940                  | 5,500      | 1,350                            | 2,280                                       |                    | 42   | .10  | .03                 | .04              |
| 1941                  | 6,270      | 1,364                            | 2,400                                       |                    | 44   | .11  | .02                 | .04              |
| 1942                  | 6,250      | 1,288                            | 2,200                                       |                    | 46   | .11  | .02                 | .04              |
| 1943                  | 5,600      | 1,054                            | 1,810                                       |                    | 45   | .11  | .02                 | .04              |
| 1944                  | 4,890      | 900                              | 1,760                                       | 500                | 48   | .11  | .02                 | .05              |
| 1945                  | 4,600      | 850                              | 1,470                                       |                    | 50   | .11  | .02                 | .03              |
| 1946                  | 4,180      | 880                              | 1,390                                       |                    | 49   | .11  | .02                 | .04              |
| 1947                  | 3,770      | 850                              | 950   |                    | 50   | .11  | .02                 | .03              |
| 1948                  | 3,150      | 880                              | 1,040                                       | 200                | 49   | .10  | .03                 | .04              |
| 1949                  | 2,993      | 590                              | 800   | 700                | 49   | .10  | .02                 | .05              |
| 1950                  | 3,360      | 600                              | 840   | 500                | 46   | .11  | .02                 | .04              |
| 1951                  | 3,500      | 600                              | 780   | 320                | 51   | .11  | .02                 | .03              |
| 1952                  | 3,800      | 600                              | 640   | 740                | 52   | .12  | .02                 | .04              |
| 1953                  | 3,700      | 600                              | 750   | 650                | 53   | .12  | .02                 | .04              |
| 1954                  | 3,800      | 600                              | 700   | 640                | 54   | .12  | .02                 | .04              |
| 1955                  | 3,700      | 600                              | 910   | 150                | 53   | .12  | .02                 | .03              |
| 1956                  | 3,700      | 600                              | 670   | 400                | 53   | .12  | .02                 | .03              |

<sup>1</sup> See table 8 for number of sheep.

<sup>2</sup> Corn, sorghum and grass silage, and wet beet and citrus pulp.

<sup>3</sup> See footnote to table 2.

<sup>4</sup> See footnote 2, table 48, concerning number January 1.

TABLE 55.—All horses and mules: Feeds fed (except pasture), 1909-56<sup>1</sup>

| Year beginning Oct. 1 | Grains               |                     |                     |                             |                            | Commercial byproducts <sup>3</sup> |            |            | All concentrates     | Hay                  | Corn stover and sorghum forage <sup>4</sup> | Straw <sup>4</sup>  |       |
|-----------------------|----------------------|---------------------|---------------------|-----------------------------|----------------------------|------------------------------------|------------|------------|----------------------|----------------------|---|---------------------|-------|
|                       | Corn                 | Oats                | Barley <sup>2</sup> | Sorghum grains <sup>2</sup> | Wheat and rye <sup>2</sup> | High-protein feeds                 | Mill-feeds | Other      |                      |                      |   |                     |       |
| 1909                  | 1,000 tons<br>19,750 | 1,000 tons<br>6,440 | 1,000 tons<br>250   | 1,000 tons                  | 1,000 tons                 | 1,000 tons                         | 1,000 tons | 1,010 tons | 1,000 tons<br>27,450 | 1,000 tons<br>32,500 | 1,000 tons<br>12,500                        | 1,000 tons<br>7,000 |       |
| 1910                  | 21,240               | 7,300               | 210                 |                             |                            |                                    |            | 1,220      | 29,970               | 27,700               | 13,550                                      | 11,800              |       |
| 1911                  | 17,760               | 6,210               | 300                 |                             |                            |                                    |            | 1,320      | 25,590               | 25,080               | 11,900                                      | 17,600              |       |
| 1912                  | 22,520               | 7,940               | 370                 |                             |                            |                                    |            | 1,070      | 31,900               | 32,880               | 13,900                                      | 8,300               |       |
| 1913                  | 15,500               | 7,590               | 280                 |                             |                            |                                    |            | 1,350      | 24,720               | 30,400               | 10,750                                      | 15,000              |       |
| 1914                  | 15,720               | 6,540               | 350                 |                             |                            |                                    |            | 1,360      | 23,970               | 31,000               | 11,800                                      | 13,300              |       |
| 1915                  | 20,600               | 8,290               | 470                 |                             |                            |                                    |            | 1,200      | 30,560               | 34,680               | 12,800                                      | 9,400               |       |
| 1916                  | 15,430               | 7,420               | 290                 |                             |                            |                                    |            | 1,350      | 24,490               | 36,710               | 10,600                                      | 9,600               |       |
| 1917                  | 19,750               | 8,080               | 380                 |                             |                            |                                    |            | 1,350      | 29,560               | 32,300               | 12,500                                      | 12,500              |       |
| 1918                  | 16,840               | 8,580               | 520                 |                             |                            |                                    |            | 1,250      | 27,190               | 30,370               | 10,500                                      | 16,200              |       |
| 1919                  | 18,310               | 7,080               | 420                 |                             |                            |                                    |            | 1,200      | 27,010               | 33,400               | 11,500                                      | 11,500              |       |
| 1920                  | 18,670               | 7,890               | 440                 |                             |                            |                                    |            | 1,150      | 28,150               | 32,000               | 12,000                                      | 11,400              |       |
| 1921                  | 17,840               | 6,780               | 405                 |                             |                            |                                    |            | 1,150      | 26,175               | 34,100               | 11,300                                      | 9,200               |       |
| 1922                  | 15,575               | 6,930               | 425                 |                             |                            |                                    |            | 1,150      | 24,080               | 34,511               | 10,000                                      | 9,000               |       |
| 1923                  | 18,120               | 7,180               | 520                 |                             |                            |                                    |            | 1,150      | 26,970               | 33,220               | 10,000                                      | 8,900               |       |
| 1924                  | 13,300               | 7,780               | 460                 |                             |                            |                                    |            | 1,130      | 22,670               | 32,780               | 7,700                                       | 9,600               |       |
| 1925                  | 14,750               | 7,380               | 420                 |                             |                            |                                    |            | 1,030      | 23,580               | 30,350               | 8,700                                       | 10,300              |       |
| 1926                  | 13,430               | 6,420               | 120                 | 335                         | 10                         |                                    |            | 350        | 21,365               | 28,000               | 7,500                                       | 12,500              |       |
| 1927                  | 14,115               | 6,550               | 160                 | 250                         | 15                         | 30                                 |            | 270        | 450                  | 21,840               | 32,894                                      | 7,400               | 3,700 |
| 1928                  | 13,133               | 7,262               | 270                 | 250                         | 15                         | 20                                 |            | 330        | 220                  | 21,500               | 31,300                                      | 7,000               | 4,300 |
| 1929                  | 13,489               | 6,526               | 270                 | 90                          | 30                         | 20                                 |            | 270        | 205                  | 20,900               | 28,399                                      | 6,300               | 6,500 |
| 1930                  | 10,863               | 6,612               | 270                 | 70                          | 50                         | 20                                 | 170        | 200        | 18,255               | 24,000               | 5,200                                       | 10,600              |       |
| 1931                  | 11,085               | 4,940               | 180                 | 130                         | 45                         | 20                                 | 45         | 95         | 16,540               | 22,648               | 6,000                                       | 9,700               |       |
| 1932                  | 12,325               | 4,585               | 200                 | 120                         | 35                         | 15                                 | 50         | 100        | 17,430               | 23,625               | 6,600                                       | 7,200               |       |
| 1933                  | 10,445               | 2,050               | 55                  | 100                         | 30                         | 15                                 | 50         | 100        | 12,845               | 22,552               | 5,600                                       | 8,500               |       |
| 1934                  | 9,150                | 2,020               | 65                  | 35                          | 30                         | 15                                 | 45         | 100        | 11,460               | 18,825               | 3,600                                       | 13,100              |       |
| 1935                  | 12,215               | 4,300               | 115                 | 105                         | 35                         | 15                                 | 45         | 100        | 16,930               | 23,100               | 5,700                                       | 5,400               |       |
| 1936                  | 6,255                | 3,085               | 80                  | 55                          | 20                         | 20                                 | 45         | 110        | 9,670                | 22,651               | 3,319                                       | 7,700               |       |
| 1937                  | 9,190                | 3,800               | 110                 | 130                         | 45                         | 20                                 | 40         | 105        | 13,440               | 21,107               | 4,800                                       | 6,200               |       |
| 1938                  | 7,025                | 3,700               | 150                 | 120                         | 40                         | 20                                 | 50         | 105        | 11,210               | 23,815               | 5,400                                       | 2,500               |       |
| 1939                  | 6,950                | 2,970               | 125                 | 80                          | 40                         | 20                                 | 60         | 125        | 10,370               | 23,255               | 4,700                                       | 2,600               |       |
| 1940                  | 6,212                | 3,965               | 215                 | 200                         | 40                         | 30                                 | 73         | 150        | 10,885               | 23,165               | 5,100                                       | 1,400               |       |
| 1941                  | 6,425                | 3,260               | 225                 | 330                         | 80                         | 30                                 | 60         | 135        | 10,545               | 23,850               | 5,010                                       | 400                 |       |
| 1942                  | 6,630                | 3,450               | 205                 | 340                         | 70                         | 30                                 | 50         | 100        | 10,875               | 22,662               | 4,580                                       | 1,100               |       |
| 1943                  | 6,555                | 3,170               | 190                 | 225                         | 80                         | 30                                 | 50         | 100        | 10,400               | 20,650               | 3,692                                       | 2,600               |       |
| 1944                  | 6,020                | 2,970               | 165                 | 155                         | 50                         | 30                                 | 50         | 100        | 9,540                | 18,300               | 3,582                                       | 3,700               |       |
| 1945                  | 4,870                | 3,600               | 160                 | 100                         | 40                         | 20                                 | 40         | 120        | 8,950                | 17,075               | 3,000                                       | 3,900               |       |
| 1946                  | 5,270                | 2,350               | 40                  | 70                          |                            | 15                                 | 50         | 145        | 7,940                | 14,480               | 2,600                                       | 4,600               |       |
| 1947                  | 4,425                | 1,810               | 40                  | 45                          |                            | 10                                 | 35         | 200        | 6,560                | 12,677               | 1,750                                       | 5,700               |       |
| 1948                  | 3,977                | 1,690               | 45                  | 45                          |                            | 10                                 | 28         | 165        | 5,870                | 10,290               | 1,959                                       | 6,100               |       |
| 1949                  | 3,661                | 1,329               | 38                  | 33                          |                            | 31                                 | 150        | 107        | 5,349                | 8,209                | 1,549                                       | 7,000               |       |
| 1950                  | 2,890                | 1,430               | 30                  | 60                          |                            | 30                                 | 150        | 110        | 4,700                | 7,730                | 1,410                                       | 6,160               |       |
| 1951                  | 2,460                | 1,250               | 20                  | 40                          |                            | 25                                 | 140        | 100        | 4,035                | 7,300                | 1,350                                       | 4,060               |       |
| 1952                  | 2,330                | 1,030               | 15                  | 25                          |                            | 10                                 | 120        | 100        | 3,630                | 5,960                | 1,040                                       | 4,150               |       |
| 1953                  | 1,885                | 1,000               | 15                  | 25                          |                            |                                    | 100        | 100        | 3,125                | 5,240                | 940   | 3,700               |       |
| 1954                  | 1,525                | 950                 | 10                  | 25                          |                            |                                    | 90         | 100        | 2,700                | 4,730                | 840   | 3,300               |       |
| 1955                  | 1,395                | 950                 | 10                  | 25                          |                            |                                    | 80         | 100        | 2,560                | 4,740                | 790   | 2,650               |       |
| 1956                  | 1,355                | 750                 | 10                  | 25                          |                            |                                    | 75         | 90         | 2,305                | 4,230                | 580   | 2,000               |       |

<sup>1</sup> Includes grain or other concentrates fed as such or in mixed or formula feeds.

<sup>2</sup> Before 1926, barley, sorghum grains, wheat, and rye are grouped together under barley.

<sup>3</sup> See table 23 for feeds included. Before 1926, all commercial byproducts are grouped together under "other" byproducts.

<sup>4</sup> See footnotes, table 2.

TABLE 56.—Horses and mules: Feeds fed (except pasture) to animals 2 years old and over and to colts, 1909–56

| Year beginning Oct. 1 | Horses and mules 2 years old and over |                               |            |                               |                           |      |                               | Colts under 2 years                 |                           |      |                               |  |
|-----------------------|---------------------------------------|-------------------------------|------------|-------------------------------|---------------------------|------|-------------------------------|-------------------------------------|---------------------------|------|-------------------------------|--|
|                       | Number on farms Jan. 1 <sup>1</sup>   | All concentrates <sup>2</sup> | Hay        | Stover and straw <sup>3</sup> | Feed fed per head         |      |                               | Number on farms Jan. 1 <sup>1</sup> | Feed fed per head         |      |                               |  |
|                       |                                       |                               |            |                               | Concentrates <sup>2</sup> | Hay  | Stover and straw <sup>3</sup> |                                     | Concentrates <sup>2</sup> | Hay  | Stover and straw <sup>3</sup> |  |
|                       | 1,000 head                            | 1,000 tons                    | 1,000 tons | 1,000 tons                    | Pounds                    | Tons | Tons                          | 1,000 head                          | Pounds                    | Tons | Tons                          |  |
| 1909                  | 19,877                                | 26,260                        | 28,200     | 17,350                        | 2,642                     | 1.42 | 0.87                          | 4,334                               | 549                       | 0.99 | 0.50                          |  |
| 1910                  | 20,301                                | 28,780                        | 23,700     | 23,100                        | 2,835                     | 1.17 | 1.14                          | 4,546                               | 524                       | .88  | .49                           |  |
| 1911                  | 20,569                                | 24,400                        | 20,380     | 27,150                        | 2,373                     | .99  | 1.32                          | 4,708                               | 506                       | 1.00 | .50                           |  |
| 1912                  | 20,846                                | 30,690                        | 28,080     | 19,800                        | 2,944                     | 1.35 | .95                           | 4,845                               | 499                       | .99  | .50                           |  |
| 1913                  | 21,247                                | 23,510                        | 25,500     | 23,300                        | 2,213                     | 1.20 | 1.10                          | 4,931                               | 491                       | .99  | .50                           |  |
| 1914                  | 21,562                                | 22,770                        | 26,100     | 22,900                        | 2,112                     | 1.21 | 1.06                          | 4,931                               | 487                       | .99  | .45                           |  |
| 1915                  | 21,694                                | 29,350                        | 29,880     | 19,900                        | 2,706                     | 1.38 | .92                           | 4,840                               | 500                       | .99  | .48                           |  |
| 1916                  | 22,003                                | 23,290                        | 32,110     | 18,300                        | 2,117                     | 1.46 | .83                           | 4,656                               | 515                       | .99  | .41                           |  |
| 1917                  | 22,370                                | 28,370                        | 27,900     | 22,950                        | 2,536                     | 1.25 | 1.03                          | 4,353                               | 547                       | 1.01 | .47                           |  |
| 1918                  | 22,576                                | 26,020                        | 26,470     | 25,150                        | 2,305                     | 1.17 | 1.11                          | 3,914                               | 598                       | 1.00 | .40                           |  |
| 1919                  | 22,386                                | 26,070                        | 30,050     | 21,500                        | 2,329                     | 1.34 | .96                           | 3,356                               | 560                       | 1.00 | .45                           |  |
| 1920                  | 22,348                                | 27,230                        | 29,200     | 22,000                        | 2,437                     | 1.31 | .98                           | 2,789                               | 660                       | 1.00 | .50                           |  |
| 1921                  | 22,271                                | 25,485                        | 31,800     | 19,450                        | 2,289                     | 1.43 | .87                           | 2,317                               | 596                       | .99  | .45                           |  |
| 1922                  | 22,050                                | 23,600                        | 32,511     | 18,200                        | 2,141                     | 1.47 | .83                           | 1,968                               | 488                       | 1.02 | .41                           |  |
| 1923                  | 21,578                                | 26,500                        | 31,520     | 18,100                        | 2,456                     | 1.46 | .84                           | 1,707                               | 551                       | 1.00 | .47                           |  |
| 1924                  | 21,038                                | 22,210                        | 31,280     | 16,800                        | 2,111                     | 1.49 | .80                           | 1,531                               | 601                       | .98  | .46                           |  |
| 1925                  | 20,490                                | 23,110                        | 28,850     | 18,400                        | 2,256                     | 1.41 | .90                           | 1,496                               | 628                       | 1.00 | .40                           |  |
| 1926                  | 19,765                                | 20,905                        | 26,600     | 19,500                        | 2,115                     | 1.35 | .99                           | 1,427                               | 645                       | .98  | .35                           |  |
| 1927                  | 19,120                                | 21,490                        | 31,594     | 10,600                        | 2,248                     | 1.65 | .55                           | 1,328                               | 527                       | .98  | .38                           |  |
| 1928                  | 18,514                                | 21,260                        | 30,100     | 10,860                        | 2,297                     | 1.63 | .59                           | 1,230                               | 390                       | .98  | .36                           |  |
| 1929                  | 17,981                                | 20,670                        | 27,299     | 12,400                        | 2,299                     | 1.52 | .69                           | 1,143                               | 402                       | .96  | .35                           |  |
| 1930                  | 17,375                                | 18,030                        | 22,900     | 15,500                        | 2,075                     | 1.32 | .89                           | 1,093                               | 412                       | 1.01 | .27                           |  |
| 1931                  | 16,822                                | 16,320                        | 21,648     | 15,400                        | 1,940                     | 1.29 | .92                           | 990                                 | 444                       | 1.01 | .30                           |  |
| 1932                  | 16,404                                | 17,210                        | 22,725     | 13,450                        | 2,098                     | 1.39 | .82                           | 933                                 | 472                       | .96  | .38                           |  |
| 1933                  | 15,984                                | 12,630                        | 21,552     | 13,770                        | 1,580                     | 1.35 | .86                           | 1,013                               | 424                       | .99  | .33                           |  |
| 1934                  | 15,473                                | 11,240                        | 17,625     | 16,340                        | 1,453                     | 1.14 | 1.06                          | 1,210                               | 364                       | .99  | .30                           |  |
| 1935                  | 14,839                                | 16,600                        | 21,700     | 10,620                        | 2,237                     | 1.46 | .72                           | 1,387                               | 476                       | 1.01 | .35                           |  |
| 1936                  | 14,330                                | 9,530                         | 21,151     | 10,619                        | 1,330                     | 1.48 | .74                           | 1,972                               | 190                       | 1.02 | .27                           |  |
| 1937                  | 13,690                                | 13,090                        | 19,507     | 10,500                        | 1,912                     | 1.42 | .77                           | 1,555                               | 450                       | 1.03 | .32                           |  |
| 1938                  | 13,273                                | 10,860                        | 22,315     | 7,400                         | 1,636                     | 1.68 | .56                           | 1,519                               | 461                       | .99  | .33                           |  |
| 1939                  | 13,000                                | 10,020                        | 21,755     | 6,800                         | 1,542                     | 1.67 | .52                           | 1,478                               | 474                       | 1.01 | .34                           |  |
| 1940                  | 12,651                                | 10,515                        | 21,665     | 6,000                         | 1,662                     | 1.71 | .47                           | 1,453                               | 509                       | 1.03 | .34                           |  |
| 1941                  | 12,346                                | 10,280                        | 22,250     | 4,910                         | 1,665                     | 1.80 | .40                           | 1,309                               | 405                       | 1.22 | .38                           |  |
| 1942                  | 12,117                                | 10,669                        | 21,262     | 5,280                         | 1,761                     | 1.75 | .44                           | 1,114                               | 370                       | 1.26 | .36                           |  |
| 1943                  | 11,668                                | 10,255                        | 19,450     | 6,022                         | 1,758                     | 1.67 | .52                           | 945                                 | 307                       | 1.27 | .29                           |  |
| 1944                  | 11,116                                | 9,440                         | 17,300     | 7,032                         | 1,698                     | 1.56 | .63                           | 834                                 | 240                       | 1.20 | .30                           |  |
| 1945                  | 10,434                                | 8,870                         | 16,275     | 6,700                         | 1,700                     | 1.56 | .64                           | 675                                 | 237                       | 1.19 | .30                           |  |
| 1946                  | 9,578                                 | 7,865                         | 13,780     | 7,060                         | 1,642                     | 1.44 | .74                           | 551                                 | 272                       | 1.27 | .25                           |  |
| 1947                  | 8,800                                 | 6,500                         | 12,077     | 7,350                         | 1,477                     | 1.37 | .84                           | 479                                 | 251                       | 1.25 | .21                           |  |
| 1948                  | 8,074                                 | 5,820                         | 9,890      | 7,959                         | 1,442                     | 1.22 | .99                           | 424                                 | 236                       | .94  | .24                           |  |
| 1949                  | 7,415                                 | 5,309                         | 7,839      | 8,479                         | 1,432                     | 1.06 | 1.14                          | 366                                 | 219                       | 1.01 | .19                           |  |
| 1950                  | 6,732                                 | 4,660                         | 7,400      | 7,510                         | 1,384                     | 1.10 | 1.11                          | 304                                 | 263                       | 1.09 | .20                           |  |
| 1951                  | 5,887                                 | 4,000                         | 7,000      | 5,360                         | 1,359                     | 1.19 | .91                           | 263                                 | 266                       | 1.14 | .19                           |  |
| 1952                  | 5,166                                 | 3,600                         | 5,700      | 5,150                         | 1,394                     | 1.10 | 1.00                          | 237                                 | 253                       | 1.10 | .17                           |  |
| 1953                  | 4,572                                 | 3,100                         | 5,000      | 4,600                         | 1,356                     | 1.09 | 1.01                          | 219                                 | 228                       | 1.10 | .18                           |  |
| 1954                  | 4,101                                 | 2,675                         | 4,500      | 4,100                         | 1,305                     | 1.10 | 1.00                          | 208                                 | 240                       | 1.10 | .19                           |  |
| 1955                  | 3,728                                 | 2,540                         | 4,500      | 3,400                         | 1,363                     | 1.21 | .91                           | 200                                 | 201                       | 1.21 | .20                           |  |
| 1956                  | 3,364                                 | 2,290                         | 4,000      | 2,550                         | 1,361                     | 1.19 | .76                           | 194                                 | 155                       | 1.19 | .15                           |  |

<sup>1</sup> See footnote 2, table 48, as to number January 1.

<sup>2</sup> Includes grain or other concentrates fed as such or in mixed or formula feeds.

<sup>3</sup> See footnotes, table 2.



TABLE 57.—*Poultry: Feeds fed (except pasture), 1909–56* <sup>1</sup>

| Year<br>beginning<br>Oct. 1 | Grains        |               |                     |                                     |                                  | Commercial byproducts <sup>3</sup> |                   |                        |               |               | All con-<br>cen-<br>trates | Milk <sup>4</sup> |
|-----------------------------|---------------|---------------|---------------------|-------------------------------------|----------------------------------|------------------------------------|-------------------|------------------------|---------------|---------------|----------------------------|-------------------|
|                             | Corn          | Oats          | Barley <sup>2</sup> | Sor-<br>ghum<br>grains <sup>2</sup> | Wheat<br>and<br>rye <sup>2</sup> | Oil-<br>seed<br>meals              | Animal<br>protein | Plant<br>pro-<br>teins | Mill-<br>feed | Other         |                            |                   |
|                             | 1,000<br>tons | 1,000<br>tons | 1,000<br>tons       | 1,000<br>tons                       | 1,000<br>tons                    | 1,000<br>tons                      | 1,000<br>tons     | 1,000<br>tons          | 1,000<br>tons | 1,000<br>tons | 1,000<br>tons              | 1,000<br>tons     |
| 1909                        | 7,130         | 1,610         | 810                 | —                                   | —                                | —                                  | —                 | —                      | —             | 1,400         | 10,950                     | —                 |
| 1910                        | 7,450         | 1,830         | 700                 | —                                   | —                                | —                                  | —                 | —                      | —             | 1,470         | 11,450                     | —                 |
| 1911                        | 6,840         | 1,720         | 980                 | —                                   | —                                | —                                  | —                 | —                      | —             | 1,290         | 10,830                     | —                 |
| 1912                        | 6,210         | 2,250         | 1,220               | —                                   | —                                | —                                  | —                 | —                      | —             | 1,230         | 10,910                     | —                 |
| 1913                        | 6,880         | 2,090         | 920                 | —                                   | —                                | —                                  | —                 | —                      | —             | 1,360         | 11,250                     | —                 |
| 1914                        | 6,590         | 1,810         | 1,160               | —                                   | —                                | —                                  | —                 | —                      | —             | 1,430         | 10,990                     | —                 |
| 1915                        | 6,285         | 2,230         | 1,570               | —                                   | —                                | —                                  | —                 | —                      | —             | 1,325         | 11,410                     | —                 |
| 1916                        | 6,665         | 2,055         | 970                 | —                                   | —                                | —                                  | —                 | —                      | —             | 1,400         | 11,090                     | —                 |
| 1917                        | 7,240         | 2,250         | 1,260               | —                                   | —                                | —                                  | —                 | —                      | —             | 1,550         | 12,300                     | —                 |
| 1918                        | 6,690         | 2,150         | 1,710               | —                                   | —                                | —                                  | —                 | —                      | —             | 1,700         | 12,250                     | —                 |
| 1919                        | 6,860         | 2,010         | 1,390               | —                                   | —                                | —                                  | —                 | —                      | —             | 1,800         | 12,060                     | —                 |
| 1920                        | 8,175         | 2,450         | 1,465               | —                                   | —                                | —                                  | —                 | —                      | —             | 1,800         | 13,890                     | —                 |
| 1921                        | 8,125         | 2,200         | 1,345               | —                                   | —                                | —                                  | —                 | —                      | —             | 1,900         | 13,570                     | —                 |
| 1922                        | 8,010         | 2,295         | 1,415               | —                                   | —                                | —                                  | —                 | —                      | —             | 2,100         | 13,820                     | —                 |
| 1923                        | 8,700         | 2,650         | 1,730               | —                                   | —                                | —                                  | —                 | —                      | —             | 2,500         | 15,580                     | —                 |
| 1924                        | 7,150         | 3,100         | 1,540               | —                                   | —                                | —                                  | —                 | —                      | —             | 2,700         | 14,490                     | —                 |
| 1925                        | 9,310         | 3,290         | 1,400               | —                                   | —                                | —                                  | —                 | —                      | —             | 2,800         | 16,800                     | —                 |
| 1926                        | 10,642        | 2,500         | 300                 | 505                                 | 750                              | 280                                | 238               | 95                     | 1,780         | 510           | 17,600                     | 340               |
| 1927                        | 10,712        | 2,300         | 450                 | 700                                 | 940                              | 205                                | 278               | 105                    | 1,700         | 520           | 17,910                     | 310               |
| 1928                        | 9,885         | 2,380         | 610                 | 810                                 | 950                              | 230                                | 290               | 140                    | 1,880         | 675           | 17,850                     | 335               |
| 1929                        | 9,735         | 2,875         | 695                 | 590                                 | 1,780                            | 280                                | 305               | 130                    | 1,850         | 690           | 18,930                     | 350               |
| 1930                        | 6,689         | 2,980         | 895                 | 460                                 | 2,960                            | 295                                | 240               | 111                    | 1,790         | 550           | 16,970                     | 355               |
| 1931                        | 9,411         | 2,370         | 680                 | 880                                 | 2,589                            | 265                                | 315               | 100                    | 1,585         | 515           | 18,710                     | 380               |
| 1932                        | 9,970         | 2,455         | 770                 | 830                                 | 1,990                            | 250                                | 370               | 110                    | 1,820         | 535           | 19,100                     | 380               |
| 1933                        | 8,719         | 1,700         | 215                 | 680                                 | 1,830                            | 180                                | 425               | 115                    | 1,850         | 515           | 16,229                     | 360               |
| 1934                        | 7,573         | 1,500         | 305                 | 225                                 | 1,815                            | 235                                | 365               | 100                    | 1,910         | 530           | 14,558                     | 345               |
| 1935                        | 9,167         | 2,440         | 455                 | 735                                 | 2,175                            | 470                                | 405               | 135                    | 2,068         | 530           | 18,580                     | 340               |
| 1936                        | 6,870         | 2,510         | 375                 | 385                                 | 1,145                            | 560                                | 445               | 130                    | 2,220         | 570           | 15,210                     | 315               |
| 1937                        | 7,177         | 2,280         | 525                 | 905                                 | 2,980                            | 763                                | 385               | 130                    | 2,090         | 515           | 17,750                     | 340               |
| 1938                        | 8,390         | 2,300         | 720                 | 860                                 | 2,830                            | 915                                | 415               | 150                    | 2,230         | 580           | 19,390                     | 340               |
| 1939                        | 8,130         | 2,415         | 900                 | 710                                 | 2,940                            | 935                                | 415               | 110                    | 2,380         | 545           | 19,480                     | 335               |
| 1940                        | 10,713        | 2,855         | 720                 | 960                                 | 1,960                            | 1,215                              | 510               | 135                    | 2,686         | 591           | 22,345                     | 355               |
| 1941                        | 11,520        | 3,350         | 730                 | 1,180                               | 3,730                            | 1,450                              | 435               | 135                    | 2,640         | 660           | 25,830                     | 337               |
| 1942                        | 13,096        | 3,390         | 945                 | 1,320                               | 5,950                            | 1,935                              | 334               | 205                    | 2,870         | 645           | 30,690                     | 325               |
| 1943                        | 13,283        | 3,510         | 995                 | 1,270                               | 5,205                            | 1,905                              | 350               | 200                    | 2,857         | 640           | 30,215                     | 310               |
| 1944                        | 13,570        | 3,720         | 890                 | 1,770                               | 4,450                            | 2,045                              | 490               | 150                    | 3,240         | 670           | 30,995                     | 290               |
| 1945                        | 12,697        | 4,200         | 790                 | 1,190                               | 4,511                            | 1,990                              | 315               | 100                    | 2,770         | 890           | 29,453                     | 270               |
| 1946                        | 12,581        | 3,730         | 645                 | 1,145                               | 3,140                            | 1,885                              | 385               | 160                    | 3,425         | 915           | 28,011                     | 270               |
| 1947                        | 9,260         | 3,786         | 765                 | 1,160                               | 4,630                            | 2,049                              | 435               | 190                    | 3,335         | 980           | 26,590                     | 240               |
| 1948                        | 12,786        | 4,220         | 1,000               | 1,207                               | 2,307                            | 2,500                              | 520               | 200                    | 3,070         | 1,080         | 28,890                     | 250               |
| 1949                        | 15,397        | 3,922         | 863                 | 1,064                               | 2,640                            | 2,926                              | 500               | 140                    | 2,884         | 1,085         | 31,421                     | 89                |
| 1950                        | 12,545        | 4,230         | 850                 | 2,730                               | 2,580                            | 3,305                              | 490               | 210                    | 2,905         | 1,055         | 30,900                     | 90                |
| 1951                        | 12,511        | 4,180         | 850                 | 2,190                               | 2,674                            | 3,220                              | 480               | 260                    | 3,010         | 1,025         | 30,400                     | 90                |
| 1952                        | 13,825        | 3,800         | 750                 | 1,472                               | 2,190                            | 3,195                              | 660               | 240                    | 2,818         | 1,020         | 29,970                     | 90                |
| 1953                        | 14,439        | 3,800         | 900                 | 1,515                               | 2,194                            | 3,060                              | 820               | 240                    | 2,837         | 1,000         | 30,805                     | 80                |
| 1954                        | 11,325        | 4,100         | 1,030               | 2,434                               | 2,114                            | 3,085                              | 645               | 230                    | 2,790         | 1,117         | 28,870                     | 80                |
| 1955                        | 12,737        | 4,220         | 1,150               | 3,179                               | 1,512                            | 3,485                              | 785               | 238                    | 2,729         | 980           | 31,015                     | 80                |
| 1956                        | 13,505        | 3,585         | 820                 | 3,348                               | 1,514                            | 3,770                              | 710               | 238                    | 2,740         | 990           | 31,220                     | 80                |

<sup>1</sup> Includes feed for hens and pullets, chickens raised on farms, commercial broilers, and turkeys. Includes grain and other concentrates fed as such or in mixed or formula feeds.

<sup>2</sup> Before 1926, barley, sorghum grains, wheat, and rye are grouped together under barley.

<sup>3</sup> See tables 1 and 23 for feeds included. Before 1926, oilseed meals, animal proteins, plant proteins, and millfeeds are grouped with "other" commercial byproducts.

<sup>4</sup> Dry equivalent of whole milk, skim milk, buttermilk, and whey fed as liquids.



TABLE 58.—Hens and pullets: Number and feeds fed (except pasture), 1909–56 <sup>1</sup>

| Year beginning Oct. 1 | Number on farms Jan. 1 <sup>2</sup> | Average number in year beginning Oct. 1 | Grains            | Com-mercial by-products | All concen-trates | Milk              | Concentrates fed           |                 |                       |
|-----------------------|-------------------------------------|---|-------------------|-------------------------|-------------------|-------------------|----------------------------|-----------------|-----------------------|
|                       |                                     |   |                   |                         |                   |                   | Per head, average for year | Per head Jan. 1 | Per 100 eggs produced |
|                       | <i>Million head</i>                 | <i>Million head</i>                     | <i>1,000 tons</i> | <i>1,000 tons</i>       | <i>1,000 tons</i> | <i>1,000 tons</i> | <i>Pounds</i>              | <i>Pounds</i>   | <i>Pounds</i>         |
| 1909                  | 319                                 |   | 5,470             | 900                     | 6,370             |                   |                            | 40              | 47                    |
| 1910                  | 342                                 |   | 5,940             | 950                     | 6,890             |                   |                            | 40              | 47                    |
| 1911                  | 329                                 |   | 5,710             | 830                     | 6,540             |                   |                            | 40              | 46                    |
| 1912                  | 327                                 |   | 5,710             | 790                     | 6,500             |                   |                            | 40              | 46                    |
| 1913                  | 328                                 |   | 5,710             | 870                     | 6,580             |                   |                            | 40              | 47                    |
| 1914                  | 340                                 |   | 5,880             | 920                     | 6,800             |                   |                            | 40              | 45                    |
| 1915                  | 331                                 |   | 6,070             | 850                     | 6,920             |                   |                            | 42              | 48                    |
| 1916                  | 322                                 |   | 6,000             | 900                     | 6,900             |                   |                            | 43              | 50                    |
| 1917                  | 326                                 |   | 6,340             | 1,000                   | 7,340             |                   |                            | 45              | 52                    |
| 1918                  | 351                                 |   | 6,640             | 1,100                   | 7,740             |                   |                            | 44              | 51                    |
| 1919                  | 341                                 |   | 6,500             | 1,150                   | 7,650             |                   |                            | 45              | 52                    |
| 1920                  | 332                                 |   | 6,950             | 1,150                   | 8,100             |                   |                            | 49              | 53                    |
| 1921                  | 354                                 |   | 7,150             | 1,200                   | 8,350             |                   |                            | 47              | 51                    |
| 1922                  | 372                                 |   | 7,100             | 1,300                   | 8,400             |                   |                            | 45              | 48                    |
| 1923                  | 390                                 |   | 8,250             | 1,600                   | 9,850             |                   |                            | 51              | 57                    |
| 1924                  | 391                                 |   | 7,310             | 1,700                   | 9,010             |                   |                            | 46              | 52                    |
| 1925                  | 394                                 | 313                                     | 8,400             | 1,700                   | 10,100            |                   | 65                         | 51              | 54                    |
| 1926                  | 415                                 | 326                                     | 8,802             | 1,788                   | 10,590            | 230               | 65                         | 51              | 55                    |
| 1927                  | 427                                 | 330                                     | 9,477             | 1,673                   | 11,150            | 210               | 68                         | 52              | 58                    |
| 1928                  | 404                                 | 317                                     | 8,680             | 1,940                   | 10,620            | 225               | 67                         | 53              | 56                    |
| 1929                  | 420                                 | 323                                     | 8,945             | 1,885                   | 10,830            | 225               | 67                         | 52              | 55                    |
| 1930                  | 402                                 | 307                                     | 8,154             | 1,696                   | 9,850             | 230               | 64                         | 49              | 51                    |
| 1931                  | 386                                 | 299                                     | 8,825             | 1,585                   | 10,410            | 240               | 70                         | 54              | 61                    |
| 1932                  | 391                                 | 300                                     | 8,900             | 1,720                   | 10,620            | 240               | 71                         | 54              | 60                    |
| 1933                  | 385                                 | 296                                     | 7,645             | 1,655                   | 9,300             | 230               | 63                         | 48              | 54                    |
| 1934                  | 350                                 | 275                                     | 6,100             | 1,820                   | 7,920             | 220               | 58                         | 45              | 47                    |
| 1935                  | 363                                 | 282                                     | 7,802             | 1,918                   | 9,720             | 215               | 69                         | 54              | 56                    |
| 1936                  | 380                                 | 292                                     | 6,450             | 2,270                   | 8,720             | 200               | 60                         | 46              | 46                    |
| 1937                  | 353                                 | 274                                     | 7,700             | 2,090                   | 9,790             | 215               | 71                         | 55              | 52                    |
| 1938                  | 376                                 | 286                                     | 8,540             | 2,250                   | 10,790            | 215               | 75                         | 57              | 56                    |
| 1939                  | 393                                 | 297                                     | 8,550             | 2,340                   | 10,890            | 210               | 73                         | 55              | 55                    |
| 1940                  | 381                                 | 294                                     | 9,145             | 2,675                   | 11,820            | 220               | 80                         | 62              | 56                    |
| 1941                  | 428                                 | 330                                     | 11,180            | 2,755                   | 13,935            | 205               | 85                         | 65              | 57                    |
| 1942                  | 489                                 | 376                                     | 13,596            | 3,084                   | 16,680            | 200               | 89                         | 68              | 61                    |
| 1943                  | 524                                 | 397                                     | 14,293            | 3,132                   | 17,425            | 190               | 88                         | 67              | 60                    |
| 1944                  | 474                                 | 373                                     | 13,365            | 3,165                   | 16,530            | 180               | 89                         | 70              | 59                    |
| 1945                  | 473                                 | 392                                     | 14,058            | 3,145                   | 17,203            | 165               | 88                         | 73              | 61                    |
| 1946                  | 431                                 | 347                                     | 12,476            | 3,555                   | 16,031            | 165               | 92                         | 74              | 58                    |
| 1947                  | 418                                 | 335                                     | 11,880            | 3,720                   | 15,600            | 145               | 93                         | 75              | 57                    |
| 1948                  | 399                                 | 327                                     | 12,250            | 3,570                   | 15,820            | 150               | 97                         | 79              | 56                    |
| 1949                  | 424                                 | 342                                     | 14,340            | 3,728                   | 18,068            | 61                | 106                        | 85              | 61                    |
| 1950                  | 399                                 | 329                                     | 13,150            | 3,700                   | 16,850            | 60                | 102                        | 84              | 58                    |
| 1951                  | 397                                 | 323                                     | 12,950            | 3,750                   | 16,700            | 60                | 103                        | 84              | 58                    |
| 1952                  | 373                                 | 313                                     | 12,572            | 3,628                   | 16,200            | 60                | 104                        | 87              | 56                    |
| 1953                  | 371                                 | 313                                     | 12,863            | 3,537                   | 16,400            | 55                | 105                        | 88              | 56                    |
| 1954                  | 369                                 | 312                                     | 12,230            | 3,670                   | 15,900            | 55                | 102                        | 86              | 53                    |
| 1955                  | 360                                 | 310                                     | 12,598            | 3,572                   | 16,170            | 55                | 104                        | 90              | 54                    |
| 1956                  | 371                                 | 310                                     | 13,065            | 3,835                   | 16,900            | 55                | 109                        | 91              | 55                    |

<sup>1</sup> Includes grain and other concentrates fed as such, or in mixed or formula feeds. See tables 1 and 23 for feeds included. It was assumed that in the early years a considerable part of the feed for laying flocks was salvaged from otherwise waste feed but that the quantity of feed salvaged was much less important in recent years.

<sup>2</sup> See footnote 2, table 48, as to number January 1.

TABLE 59.—Chickens raised: Number and feeds fed (except pasture), 1909–56 <sup>1</sup>

| Year beginning Oct. 1 | Number raised           | Grains                | Commer-<br>cial by-<br>products | All<br>concen-<br>trates | Milk                  | Concentrates fed |                               |
|-----------------------|-------------------------|-----------------------|---------------------------------|--------------------------|-----------------------|------------------|-------------------------------|
|                       |                         |                       |                                 |                          |                       | Per<br>head      | Per 100<br>pounds<br>produced |
|                       | <i>Million<br/>head</i> | <i>1,000<br/>tons</i> | <i>1,000<br/>tons</i>           | <i>1,000<br/>tons</i>    | <i>1,000<br/>tons</i> | <i>Pounds</i>    | <i>Pounds</i>                 |
| 1909                  | 586                     | 4,080                 | 500                             | 4,580                    |                       | 16               | 390                           |
| 1910                  | 563                     | 4,040                 | 520                             | 4,560                    |                       | 16               | 407                           |
| 1911                  | 557                     | 3,830                 | 460                             | 4,290                    |                       | 15               | 386                           |
| 1912                  | 558                     | 3,970                 | 440                             | 4,410                    |                       | 16               | 396                           |
| 1913                  | 575                     | 4,180                 | 490                             | 4,670                    |                       | 16               | 406                           |
| 1914                  | 560                     | 3,680                 | 510                             | 4,190                    |                       | 15               | 376                           |
| 1915                  | 545                     | 4,015                 | 475                             | 4,490                    |                       | 16               | 414                           |
| 1916                  | 552                     | 3,690                 | 500                             | 4,190                    |                       | 15               | 381                           |
| 1917                  | 587                     | 4,410                 | 550                             | 4,960                    |                       | 17               | 422                           |
| 1918                  | 574                     | 3,910                 | 600                             | 4,510                    |                       | 16               | 396                           |
| 1919                  | 560                     | 3,760                 | 650                             | 4,410                    |                       | 16               | 396                           |
| 1920                  | 600                     | 5,140                 | 650                             | 5,790                    |                       | 19               | 482                           |
| 1921                  | 632                     | 4,520                 | 700                             | 5,220                    |                       | 17               | 413                           |
| 1922                  | 660                     | 4,620                 | 800                             | 5,420                    |                       | 16               | 411                           |
| 1923                  | 662                     | 4,830                 | 900                             | 5,730                    |                       | 17               | 455                           |
| 1924                  | 679                     | 4,480                 | 1,000                           | 5,480                    |                       | 16               | 425                           |
| 1925                  | 718                     | 5,500                 | 1,200                           | 6,700                    |                       | 19               | 491                           |
| 1926                  | 750                     | 5,895                 | 1,115                           | 7,010                    | 110                   | 19               | 492                           |
| 1927                  | 700                     | 5,625                 | 1,135                           | 6,760                    | 100                   | 19               | 508                           |
| 1928                  | 751                     | 5,955                 | 1,275                           | 7,230                    | 110                   | 19               | 507                           |
| 1929                  | 777                     | 6,035                 | 1,285                           | 7,320                    | 110                   | 19               | 509                           |
| 1930                  | 709                     | 5,105                 | 1,205                           | 6,310                    | 110                   | 18               | 468                           |
| 1931                  | 736                     | 6,195                 | 1,085                           | 7,280                    | 120                   | 20               | 507                           |
| 1932                  | 750                     | 6,240                 | 1,190                           | 7,430                    | 120                   | 20               | 521                           |
| 1933                  | 644                     | 4,565                 | 1,175                           | 5,740                    | 110                   | 18               | 469                           |
| 1934                  | 658                     | 4,435                 | 1,095                           | 5,530                    | 105                   | 17               | 431                           |
| 1935                  | 715                     | 5,945                 | 1,335                           | 7,280                    | 105                   | 20               | 522                           |
| 1936                  | 601                     | 3,725                 | 1,335                           | 5,060                    | 100                   | 17               | 421                           |
| 1937                  | 651                     | 4,837                 | 1,393                           | 6,230                    | 105                   | 19               | 491                           |
| 1938                  | 697                     | 4,930                 | 1,520                           | 6,450                    | 105                   | 19               | 475                           |
| 1939                  | 634                     | 4,750                 | 1,430                           | 6,180                    | 100                   | 19               | 476                           |
| 1940                  | 745                     | 6,065                 | 1,705                           | 7,770                    | 105                   | 21               | 509                           |
| 1941                  | 844                     | 7,110                 | 1,790                           | 8,900                    | 106                   | 21               | 502                           |
| 1942                  | 1,001                   | 8,725                 | 2,065                           | 10,790                   | 100                   | 22               | 513                           |
| 1943                  | 832                     | 7,595                 | 1,925                           | 9,520                    | 95                    | 23               | 532                           |
| 1944                  | 890                     | 7,995                 | 2,215                           | 10,210                   | 90                    | 23               | 534                           |
| 1945                  | 738                     | 6,655                 | 1,845                           | 8,500                    | 85                    | 23               | 524                           |
| 1946                  | 719                     | 6,380                 | 2,100                           | 8,480                    | 85                    | 24               | 536                           |
| 1947                  | 615                     | 5,301                 | 1,999                           | 7,300                    | 75                    | 24               | 528                           |
| 1948                  | 705                     | 6,095                 | 2,145                           | 8,240                    | 80                    | 23               | 531                           |
| 1949                  | 620                     | 6,034                 | 1,989                           | 8,023                    | 28                    | 26               | 575                           |
| 1950                  | 623                     | 5,740                 | 2,060                           | 7,800                    | 30                    | 25               | 556                           |
| 1951                  | 561                     | 5,080                 | 1,920                           | 7,000                    | 30                    | 25               | 554                           |
| 1952                  | 548                     | 4,920                 | 1,930                           | 6,850                    | 30                    | 25               | 532                           |
| 1953                  | 540                     | 4,900                 | 1,850                           | 6,750                    | 25                    | 25               | 556                           |
| 1954                  | 462                     | 3,893                 | 1,682                           | 5,575                    | 25                    | 24               | 514                           |
| 1955                  | 479                     | 4,190                 | 1,710                           | 5,900                    | 25                    | 25               | 541                           |
| 1956                  | 394                     | 3,327                 | 1,523                           | 4,850                    | 25                    | 25               |                               |

<sup>1</sup> Includes grain and other concentrates fed as such or in mixed or formula feeds. See tables 1 and 23 for feeds included. It was assumed that in the early years a considerable part of the feed for raising chickens was salvaged from otherwise waste feed, but that the feed salvaged has been of much less importance in recent years.

TABLE 60.—*Broilers and turkeys: Number and feeds fed (except pasture), 1929-56* <sup>1</sup>

| Year beginning Oct. 1 | Commercial broilers          |                   |                        |                   |                  |                         | Turkeys                    |                   |                        |                   |                   |                  |                         |
|-----------------------|------------------------------|-------------------|------------------------|-------------------|------------------|-------------------------|----------------------------|-------------------|------------------------|-------------------|-------------------|------------------|-------------------------|
|                       | Number produced <sup>2</sup> | Grain             | Commercial by-products | All concentrates  | Concentrates fed |                         | Number raised <sup>2</sup> | Grain             | Commercial by-products | All concentrates  | Milk              | Concentrates fed |                         |
|                       |                              |                   |                        |                   | Per head         | Per 100 pounds produced |                            |                   |                        |                   |                   | Per head         | Per 100 pounds produced |
|                       | <i>Million head</i>          | <i>1,000 tons</i> | <i>1,000 tons</i>      | <i>1,000 tons</i> | <i>Lbs.</i>      | <i>Lbs.</i>             | <i>Million head</i>        | <i>1,000 tons</i> | <i>1,000 tons</i>      | <i>1,000 tons</i> | <i>1,000 tons</i> | <i>Lbs.</i>      | <i>Lbs.</i>             |
| 1929                  |                              |                   |                        |                   |                  |                         | 17.4                       |                   |                        |                   |                   |                  |                         |
| 1930                  |                              |                   |                        |                   |                  |                         | 18.2                       | 725               | 85                     | 810               | 15                | 89               | 664                     |
| 1931                  |                              |                   |                        |                   |                  |                         | 22.3                       | 910               | 110                    | 1,020             | 20                | 91               | 673                     |
| 1932                  |                              |                   |                        |                   |                  |                         | 23.2                       | 875               | 175                    | 1,050             | 20                | 90               | 658                     |
| 1933                  | 34                           | 114               | 95                     | 209               | 12.3             | 431                     | 21.7                       | 820               | 160                    | 980               | 20                | 90               | 653                     |
| 1934                  | 43                           | 173               | 85                     | 258               | 12.0             | 420                     | 20.8                       | 710               | 140                    | 850               | 20                | 82               | 570                     |
| 1935                  | 53                           | 190               | 140                    | 330               | 12.5             | 434                     | 28.0                       | 1,035             | 215                    | 1,250             | 20                | 89               | 617                     |
| 1936                  | 68                           | 255               | 145                    | 400               | 11.8             | 408                     | 25.8                       | 855               | 175                    | 1,030             | 15                | 80               | 548                     |
| 1937                  | 82                           | 355               | 165                    | 520               | 12.7             | 433                     | 26.9                       | 975               | 235                    | 1,210             | 20                | 90               | 613                     |
| 1938                  | 106                          | 420               | 200                    | 620               | 11.7             | 405                     | 33.6                       | 1,210             | 320                    | 1,530             | 20                | 91               | 619                     |
| 1939                  | 143                          | 560               | 290                    | 850               | 11.9             | 411                     | 33.8                       | 1,235             | 325                    | 1,560             | 25                | 92               | 621                     |
| 1940                  | 192                          | 786               | 394                    | 1,180             | 12.3             | 421                     | 32.6                       | 1,212             | 363                    | 1,575             | 30                | 97               | 615                     |
| 1941                  | 228                          | 940               | 430                    | 1,370             | 12.0             | 407                     | 32.5                       | 1,280             | 345                    | 1,625             | 26                | 100              | 623                     |
| 1942                  | 285                          | 1,275             | 500                    | 1,775             | 12.5             | 426                     | 31.8                       | 1,105             | 340                    | 1,445             | 25                | 91               | 568                     |
| 1943                  | 274                          | 1,145             | 475                    | 1,620             | 11.8             | 410                     | 35.1                       | 1,230             | 420                    | 1,650             | 25                | 94               | 565                     |
| 1944                  | 366                          | 1,545             | 655                    | 2,200             | 12.0             | 397                     | 42.9                       | 1,495             | 560                    | 2,055             | 20                | 96               | 555                     |
| 1945                  | 293                          | 1,245             | 555                    | 1,800             | 12.3             | 407                     | 40.1                       | 1,430             | 520                    | 1,950             | 20                | 97               | 546                     |
| 1946                  | 310                          | 1,230             | 620                    | 1,850             | 11.9             | 395                     | 34.0                       | 1,155             | 495                    | 1,650             | 20                | 97               | 540                     |
| 1947                  | 371                          | 1,405             | 735                    | 2,140             | 11.5             | 380                     | 31.5                       | 1,015             | 535                    | 1,550             | 20                | 98               | 540                     |
| 1948                  | 513                          | 1,825             | 995                    | 2,820             | 11.0             | 359                     | 41.3                       | 1,350             | 660                    | 2,010             | 20                | 97               | 523                     |
| 1949                  | 631                          | 2,118             | 1,124                  | 3,242             | 10.3             | 333                     | 44.4                       | 1,394             | 694                    | 2,088             | -----             | 94               | 511                     |
| 1950                  | 789                          | 2,525             | 1,425                  | 3,950             | 10.0             | 327                     | 53.3                       | 1,520             | 780                    | 2,300             | -----             | 86               | 484                     |
| 1951                  | 861                          | 2,740             | 1,460                  | 4,200             | 9.8              | 320                     | 62.3                       | 1,635             | 865                    | 2,500             | -----             | 80               | 477                     |
| 1952                  | 947                          | 3,005             | 1,545                  | 4,550             | 9.6              | 313                     | 59.8                       | 1,540             | 830                    | 2,370             | -----             | 79               | 470                     |
| 1953                  | 1,048                        | 3,275             | 1,650                  | 4,925             | 9.4              | 304                     | 67.7                       | 1,810             | 920                    | 2,730             | -----             | 81               | 470                     |
| 1954                  | 1,078                        | 3,235             | 1,625                  | 4,860             | 9.0              | 290                     | 65.6                       | 1,645             | 890                    | 2,535             | -----             | 77               | 465                     |
| 1955                  | 1,330                        | 3,880             | 1,970                  | 5,850             | 8.8              | 274                     | 76.9                       | 2,130             | 965                    | 3,095             | -----             | 80               | 485                     |
| 1956                  | 1,450                        | 4,090             | 2,070                  | 6,160             | 8.5              | 262                     | 81.0                       | 2,290             | 1,020                  | 3,310             | -----             | 82               | 490                     |

<sup>1</sup> Includes grain and other concentrates fed as such or in mixed or formula feed.

<sup>2</sup> Number produced or raised in the calendar year following October 1.

TABLE 61.—Hogs: Feeds fed (except pasture), 1909-56<sup>1</sup>

| Year beginning Oct. 1 | Grains     |            |                     |                             |                            | Commercial byproducts <sup>3</sup>     |                |            |            |            | All concentrates | Seeds <sup>4</sup> | Milk <sup>5</sup> | Concentrates fed per hog fed in year | Concentrates fed per 100 pounds produced |
|-----------------------|------------|------------|---------------------|-----------------------------|----------------------------|--|----------------|------------|------------|------------|------------------|--------------------|-------------------|--------------------------------------|--|
|                       | Corn       | Oats       | Barley <sup>2</sup> | Sorghum grains <sup>2</sup> | Wheat and rye <sup>2</sup> | Oilseed meals and other plant proteins | Animal protein | Millfeed   | Other      |            |                  |                    |                   |                                      |  |
|                       | 1,000 tons | 1,000 tons | 1,000 tons          | 1,000 tons                  | 1,000 tons                 | 1,000 tons                             | 1,000 tons     | 1,000 tons | 1,000 tons | 1,000 tons | 1,000 tons       | 1,000 tons         | Lbs.              | Lbs.                                 |  |
| 1909                  | 26,500     | 2,370      | 1,380               |                             |                            |  |                |            | 1,990      | 32,240     |                  |                    |                   |                                      |  |
| 1910                  | 30,856     | 2,690      | 1,720               |                             |                            |  |                |            | 2,090      | 35,796     |                  |                    |                   | 593                                  |  |
| 1911                  | 28,806     | 2,240      | 1,720               |                             |                            |  |                |            | 2,340      | 35,106     |                  |                    |                   | 580                                  |  |
| 1912                  | 31,250     | 3,150      | 2,030               |                             |                            |  |                |            | 2,800      | 39,030     |                  |                    |                   | 640                                  |  |
| 1913                  | 28,369     | 2,730      | 1,580               |                             |                            |  |                |            | 2,500      | 35,179     |                  |                    |                   | 563                                  |  |
| 1914                  | 31,294     | 2,360      | 2,000               |                             |                            |  |                |            | 2,600      | 38,254     |                  |                    |                   | 563                                  |  |
| 1915                  | 30,640     | 3,140      | 2,550               |                             |                            |  |                |            | 2,800      | 39,130     |                  |                    |                   | 571                                  |  |
| 1916                  | 27,307     | 2,685      | 1,570               |                             |                            |  |                |            | 1,600      | 34,162     |                  |                    |                   | 522                                  |  |
| 1917                  | 30,913     | 3,360      | 2,040               |                             |                            |  |                |            | 2,200      | 38,913     |                  |                    |                   | 544                                  |  |
| 1918                  | 28,752     | 3,160      | 2,730               |                             |                            |  |                |            | 2,400      | 37,042     |                  |                    |                   | 522                                  |  |
| 1919                  | 29,008     | 2,680      | 2,240               |                             |                            |  |                |            | 2,200      | 36,128     |                  |                    |                   | 531                                  |  |
| 1920                  | 31,790     | 3,150      | 2,360               |                             |                            |  |                |            | 2,000      | 39,300     |                  |                    |                   | 561                                  |  |
| 1921                  | 34,050     | 2,670      | 2,160               |                             |                            |  |                |            | 1,600      | 40,480     |                  |                    |                   | 509                                  |  |
| 1922                  | 33,860     | 3,110      | 2,280               |                             |                            |  |                |            | 2,300      | 41,550     |                  |                    |                   | 492                                  |  |
| 1923                  | 32,373     | 3,300      | 2,780               |                             |                            |  |                |            | 1,600      | 40,053     |                  |                    |                   | 507                                  |  |
| 1924                  | 26,921     | 3,330      | 2,450               |                             |                            |  |                |            | 1,820      | 34,521     |                  |                    | 947               | 478                                  |  |
| 1925                  | 29,374     | 3,210      | 2,200               |                             |                            |  |                |            | 2,000      | 36,784     |                  |                    | 1,028             | 504                                  |  |
| 1926                  | 29,531     | 2,907      | 1,308               | 788                         | 396                        | 510                                    | 497            | 900        | 145        | 39,982     | 766              | 1,020              | 957               | 480                                  |  |
| 1927                  | 30,929     | 3,000      | 1,691               | 947                         | 435                        | 433                                    | 500            | 800        | 360        | 39,095     | 633              | 950                | 974               | 474                                  |  |
| 1928                  | 28,760     | 3,920      | 2,629               | 721                         | 497                        | 440                                    | 518            | 700        | 330        | 38,515     | 613              | 990                | 990               | 481                                  |  |
| 1929                  | 28,753     | 2,011      | 2,546               | 455                         | 863                        | 372                                    | 511            | 720        | 280        | 36,511     | 684              | 975                | 966               | 477                                  |  |
| 1930                  | 24,833     | 4,000      | 2,042               | 250                         | 1,450                      | 312                                    | 551            | 703        | 278        | 34,419     | 687              | 1,030              | 901               | 441                                  |  |
| 1931                  | 29,777     | 2,855      | 1,655               | 410                         | 1,236                      | 269                                    | 442            | 310        | 60         | 37,014     | 828              | 1,040              | 907               | 449                                  |  |
| 1932                  | 33,720     | 2,540      | 1,810               | 550                         | 921                        | 270                                    | 445            | 345        | 65         | 40,666     | 725              | 1,060              | 972               | 484                                  |  |
| 1933                  | 29,807     | 1,975      | 503                 | 424                         | 948                        | 204                                    | 430            | 300        | 60         | 34,651     | 851              | 995                | 894               | 462                                  |  |
| 1934                  | 16,965     | 2,546      | 741                 | 137                         | 1,057                      | 355                                    | 446            | 251        | 49         | 22,547     | 663              | 955                | 844               | 425                                  |  |
| 1935                  | 20,984     | 3,057      | 1,173               | 440                         | 1,050                      | 316                                    | 518            | 439        | 60         | 28,037     | 748              | 920                | 931               | 467                                  |  |
| 1936                  | 20,200     | 3,515      | 853                 | 221                         | 572                        | 498                                    | 523            | 365        | 80         | 26,527     | 715              | 895                | 839               | 419                                  |  |
| 1937                  | 26,121     | 4,083      | 1,015               | 493                         | 982                        | 566                                    | 509            | 400        | 60         | 34,229     | 883              | 930                | 1,083             | 453                                  |  |
| 1938                  | 27,176     | 3,739      | 1,381               | 493                         | 734                        | 481                                    | 563            | 490        | 70         | 35,127     | 716              | 925                | 917               | 442                                  |  |
| 1939                  | 29,981     | 3,612      | 1,707               | 357                         | 795                        | 641                                    | 636            | 516        | 100        | 38,345     | 687              | 915                | 898               | 436                                  |  |
| 1940                  | 27,729     | 4,959      | 2,305               | 578                         | 299                        | 840                                    | 645            | 378        | 111        | 37,844     | 799              | 945                | 949               | 448                                  |  |
| 1941                  | 32,063     | 4,312      | 2,816               | 769                         | 1,387                      | 909                                    | 677            | 370        | 131        | 43,434     | 692              | 876                | 960               | 448                                  |  |
| 1942                  | 39,732     | 6,024      | 3,313               | 660                         | 5,616                      | 1,678                                  | 780            | 449        | 139        | 58,391     | 914              | 835                | 1,052             | 485                                  |  |
| 1943                  | 37,481     | 4,866      | 2,640               | 591                         | 7,602                      | 1,355                                  | 862            | 440        | 133        | 55,970     | 986              | 715                | 991               | 474                                  |  |
| 1944                  | 32,665     | 4,083      | 1,691               | 927                         | 3,417                      | 1,200                                  | 575            | 400        | 93         | 45,051     | 748              | 685                | 1,058             | 479                                  |  |
| 1945                  | 35,705     | 7,919      | 1,692               | 590                         | 2,315                      | 945                                    | 693            | 401        | 120        | 50,380     | 610              | 635                | 1,161             | 533                                  |  |
| 1946                  | 33,326     | 5,815      | 1,113               | 540                         | 332                        | 1,423                                  | 627            | 635        | 120        | 43,931     | 470              | 580                | 1,062             | 480                                  |  |
| 1947                  | 29,969     | 5,145      | 1,130               | 316                         | 468                        | 1,331                                  | 669            | 480        | 121        | 39,629     | 494              | 620                | 961               | 431                                  |  |
| 1948                  | 30,920     | 6,799      | 1,148               | 469                         | 210                        | 1,528                                  | 682            | 395        | 142        | 42,293     | 435              | 630                | 972               | 455                                  |  |
| 1949                  | 34,865     | 6,041      | 1,006               | 384                         | 254                        | 1,673                                  | 722            | 367        | 163        | 45,475     | 262              | 667                | 970               | 459                                  |  |
| 1950                  | 36,165     | 6,559      | 1,309               | 460                         | 288                        | 2,090                                  | 764            | 370        | 165        | 48,170     | 240              | 640                | 973               | 457                                  |  |
| 1951                  | 35,968     | 7,007      | 1,507               | 413                         | 270                        | 1,830                                  | 949            | 370        | 185        | 48,499     | 300              | 615                | 995               | 471                                  |  |
| 1952                  | 27,251     | 6,349      | 1,238               | 275                         | 196                        | 1,741                                  | 797            | 340        | 175        | 38,362     | 230              | 635                | 912               | 412                                  |  |
| 1953                  | 29,400     | 6,178      | 1,610               | 265                         | 210                        | 1,671                                  | 991            | 350        | 200        | 40,875     | 190              | 615                | 1,007             | 470                                  |  |
| 1954                  | 29,523     | 7,064      | 1,827               | 403                         | 175                        | 1,601                                  | 908            | 350        | 203        | 42,054     | 200              | 566                | 935               | 434                                  |  |
| 1955                  | 31,399     | 7,108      | 1,994               | 535                         | 190                        | 1,698                                  | 909            | 351        | 209        | 44,393     | 200              | 520                | 957               | 455                                  |  |
| 1956                  | 31,346     | 6,346      | 2,042               | 707                         | 300                        | 1,959                                  | 850            | 350        | 200        | 44,100     | 210              | 510                | 960               | 469                                  |  |

<sup>1</sup> Includes grains and other concentrates fed as such, in mixed or formula feeds or hogged off.

<sup>2</sup> Before 1926, barley, sorghum grains, wheat, and rye are grouped together under barley.

<sup>3</sup> See table 23 for feeds included. Before 1926, plant proteins, animal proteins, and millfeed are grouped with "other" commercial byproducts.

<sup>4</sup> See table 24 for seeds included.

<sup>5</sup> Dry equivalent of whole milk, skim milk, buttermilk, and whey fed as liquids.



TABLE 62.—“Other” livestock on farms and livestock in cities: Feeds fed, 1909–56 <sup>1</sup>

| Year beginning Oct. 1 | Grains     |            |                     |                             |                            | Commercial byproducts <sup>2</sup> |                |               |            |            | All concentrates | Hay        |
|-----------------------|------------|------------|---------------------|-----------------------------|----------------------------|------------------------------------|----------------|---------------|------------|------------|------------------|------------|
|                       | Corn       | Oats       | Barley <sup>2</sup> | Sorghum grains <sup>2</sup> | Wheat and rye <sup>2</sup> | Oil-seed meals                     | Animal protein | Plant protein | Mill-feeds | Other      |                  |            |
|                       | 1,000 tons | 1,000 tons | 1,000 tons          | 1,000 tons                  | 1,000 tons                 | 1,000 tons                         | 1,000 tons     | 1,000 tons    | 1,000 tons | 1,000 tons | 1,000 tons       | 1,000 tons |
| 1909.....             | 3,920      | 420        | 90                  | —                           | —                          | —                                  | —              | —             | —          | 530        | 4,960            | 9,830      |
| 1910.....             | 4,100      | 480        | 80                  | —                           | —                          | —                                  | —              | —             | —          | 560        | 5,220            | 9,780      |
| 1911.....             | 3,620      | 400        | 120                 | —                           | —                          | —                                  | —              | —             | —          | 650        | 4,790            | 9,320      |
| 1912.....             | 4,510      | 570        | 150                 | —                           | —                          | —                                  | —              | —             | —          | 650        | 5,880            | 9,620      |
| 1913.....             | 2,770      | 490        | 110                 | —                           | —                          | —                                  | —              | —             | —          | 700        | 4,070            | 9,430      |
| 1914.....             | 2,800      | 420        | 140                 | —                           | —                          | —                                  | —              | —             | —          | 720        | 4,080            | 9,105      |
| 1915.....             | 3,470      | 570        | 190                 | —                           | —                          | —                                  | —              | —             | —          | 700        | 4,930            | 8,980      |
| 1916.....             | 2,430      | 485        | 115                 | —                           | —                          | —                                  | —              | —             | —          | 710        | 3,740            | 8,670      |
| 1917.....             | 2,870      | 570        | 150                 | —                           | —                          | —                                  | —              | —             | —          | 750        | 4,340            | 8,140      |
| 1918.....             | 2,480      | 570        | 200                 | —                           | —                          | —                                  | —              | —             | —          | 650        | 3,900            | 7,670      |
| 1919.....             | 2,440      | 480        | 160                 | —                           | —                          | —                                  | —              | —             | —          | 600        | 3,680            | 7,250      |
| 1920.....             | 3,130      | 560        | 170                 | —                           | —                          | —                                  | —              | —             | —          | 500        | 4,360            | 6,300      |
| 1921.....             | 2,365      | 480        | 155                 | —                           | —                          | —                                  | —              | —             | —          | 500        | 3,500            | 6,068      |
| 1922.....             | 1,930      | 505        | 165                 | —                           | —                          | —                                  | —              | —             | —          | 600        | 3,200            | 5,530      |
| 1923.....             | 2,140      | 540        | 200                 | —                           | —                          | —                                  | —              | —             | —          | 600        | 3,480            | 5,060      |
| 1924.....             | 1,630      | 600        | 180                 | —                           | —                          | —                                  | —              | —             | —          | 500        | 2,910            | 4,580      |
| 1925.....             | 2,140      | 600        | 160                 | —                           | —                          | —                                  | —              | —             | —          | 500        | 3,400            | 4,080      |
| 1926.....             | 2,215      | 500        | 60                  | 35                          | 80                         | 100                                | 70             | 30            | 260        | 100        | 3,450            | 3,636      |
| 1927.....             | 2,435      | 450        | 80                  | 40                          | 100                        | 80                                 | 70             | 35            | 240        | 190        | 3,720            | 3,188      |
| 1928.....             | 1,875      | 400        | 145                 | 30                          | 80                         | 80                                 | 60             | 20            | 220        | 170        | 3,080            | 2,750      |
| 1929.....             | 1,835      | 310        | 145                 | 20                          | 150                        | 80                                 | 60             | 20            | 220        | 170        | 3,010            | 2,425      |
| 1930.....             | 1,045      | 350        | 145                 | 15                          | 250                        | 75                                 | 60             | 15            | 215        | 170        | 2,340            | 2,300      |
| 1931.....             | 1,175      | 335        | 110                 | 30                          | 220                        | 70                                 | 60             | 15            | 190        | 65         | 2,270            | 2,250      |
| 1932.....             | 1,935      | 325        | 125                 | 25                          | 170                        | 80                                 | 65             | 15            | 200        | 70         | 3,010            | 2,280      |
| 1933.....             | 1,335      | 185        | 35                  | 25                          | 155                        | 80                                 | 70             | 15            | 200        | 70         | 2,170            | 2,130      |
| 1934.....             | 475        | 165        | 40                  | 10                          | 160                        | 70                                 | 60             | 15            | 265        | 70         | 1,330            | 2,050      |
| 1935.....             | 1,512      | 300        | 75                  | 30                          | 180                        | 100                                | 80             | 18            | 280        | 75         | 2,650            | 2,015      |
| 1936.....             | 390        | 250        | 50                  | 20                          | 95                         | 100                                | 75             | 20            | 275        | 75         | 1,350            | 1,980      |
| 1937.....             | 1,320      | 300        | 70                  | 40                          | 220                        | 120                                | 75             | 20            | 270        | 75         | 2,510            | 1,945      |
| 1938.....             | 1,310      | 300        | 95                  | 40                          | 200                        | 125                                | 70             | 20            | 305        | 75         | 2,540            | 1,935      |
| 1939.....             | 1,450      | 280        | 115                 | 30                          | 150                        | 130                                | 70             | 20            | 290        | 75         | 2,610            | 1,825      |
| 1940.....             | 1,514      | 350        | 125                 | 50                          | 75                         | 165                                | 60             | 20            | 288        | 83         | 2,730            | 1,815      |
| 1941.....             | 1,615      | 330        | 145                 | 65                          | 255                        | 185                                | 60             | 30            | 275        | 90         | 3,050            | 1,130      |
| 1942.....             | 2,185      | 453        | 200                 | 70                          | 250                        | 220                                | 60             | 40            | 305        | 110        | 3,890            | 1,200      |
| 1943.....             | 2,295      | 410        | 175                 | 65                          | 285                        | 235                                | 70             | 40            | 335        | 110        | 4,020            | 1,050      |
| 1944.....             | 2,175      | 410        | 130                 | 90                          | 175                        | 215                                | 60             | 40            | 335        | 110        | 3,740            | 970        |
| 1945.....             | 1,995      | 570        | 120                 | 60                          | 150                        | 200                                | 50             | 25            | 290        | 140        | 3,600            | 960        |
| 1946.....             | 2,000      | 470        | 90                  | 50                          | 75                         | 220                                | 50             | 25            | 360        | 150        | 3,490            | 932        |
| 1947.....             | 1,505      | 370        | 95                  | 50                          | 110                        | 255                                | 45             | 20            | 310        | 140        | 2,900            | 980        |
| 1948.....             | 1,710      | 490        | 110                 | 55                          | 55                         | 350                                | 50             | 20            | 300        | 160        | 3,300            | 860        |
| 1949.....             | 2,437      | 457        | 96                  | 45                          | 74                         | 332                                | 59             | 29            | 322        | 194        | 4,045            | 944        |
| 1950.....             | 2,430      | 490        | 100                 | 100                         | 60                         | 460                                | 60             | 30            | 320        | 200        | 4,250            | 1,000      |
| 1951.....             | 2,520      | 500        | 100                 | 80                          | 60                         | 590                                | 65             | 25            | 340        | 220        | 4,500            | 1,000      |
| 1952.....             | 2,770      | 560        | 110                 | 55                          | 50                         | 400                                | 80             | 25            | 400        | 300        | 4,750            | 1,000      |
| 1953.....             | 2,970      | 560        | 130                 | 55                          | 55                         | 390                                | 100            | 40            | 400        | 300        | 5,000            | 1,000      |
| 1954.....             | 2,925      | 600        | 170                 | 85                          | 45                         | 390                                | 85             | 50            | 350        | 300        | 5,000            | 1,000      |
| 1955.....             | 2,825      | 620        | 200                 | 100                         | 50                         | 415                                | 85             | 52            | 350        | 300        | 4,997            | 1,000      |
| 1956.....             | 2,940      | 520        | 180                 | 110                         | 50                         | 440                                | 70             | 40            | 350        | 300        | 5,000            | 1,000      |

<sup>1</sup> Includes livestock in towns and cities—milk cows, horses, chickens, hogs, and goats—and other livestock on farms and in towns and cities—ducks, geese, guinea hens, rabbits, dogs, cats, and so on. These data are very rough estimates.

<sup>2</sup> Before 1926, barley, sorghum grains, wheat, and rye are grouped together under barley.

<sup>3</sup> Before 1926, all commercial byproducts are grouped under “other” byproducts.

TABLE 63.—*Feed fed per 100 pounds produced of cattle, sheep, and milk, 1910-56*

| Year beginning Oct. 1 | Cattle and calves <sup>1</sup> |             |             |                  | Sheep and lambs |             |             |                  | Milk            |             |             |                  |
|-----------------------|--------------------------------|-------------|-------------|------------------|-----------------|-------------|-------------|------------------|-----------------|-------------|-------------|------------------|
|                       | Concentrates                   | Hay         | Silage      | Stover and straw | Concentrates    | Hay         | Silage      | Stover and straw | Concentrates    | Hay         | Silage      | Stover and straw |
|                       | <i>Lbs.</i>                    | <i>Lbs.</i> | <i>Lbs.</i> | <i>Lbs.</i>      | <i>Lbs.</i>     | <i>Lbs.</i> | <i>Lbs.</i> | <i>Lbs.</i>      | <i>Lbs.</i>     | <i>Lbs.</i> | <i>Lbs.</i> | <i>Lbs.</i>      |
| 1910.....             | 81                             | 154         | 24          | 364              | 187             | 723         | 25          | 441              | 28              | 76          | 13          | 49               |
| 1911.....             | 67                             | 169         | 29          | 334              | 149             | 428         | 26          | 557              | 24              | 59          | 15          | 65               |
| 1912.....             | 94                             | 216         | 37          | 283              | 182             | 546         | 33          | 406              | 29              | 71          | 19          | 50               |
| 1913.....             | 59                             | 204         | 45          | 292              | 125             | 560         | 42          | 312              | 22              | 64          | 25          | 53               |
| 1914.....             | 57                             | 197         | 52          | 308              | 113             | 525         | 52          | 405              | 21              | 68          | 31          | 48               |
| 1915.....             | 94                             | 211         | 58          | 286              | 148             | 625         | 69          | 399              | 27              | 78          | 36          | 43               |
| 1916.....             | 72                             | 228         | 64          | 273              | 116             | 667         | 85          | 311              | 21              | 80          | 42          | 39               |
| 1917.....             | 74                             | 184         | 68          | 316              | 139             | 557         | 88          | 331              | 28              | 75          | 45          | 44               |
| 1918.....             | 73                             | 175         | 75          | 321              | 134             | 574         | 98          | 416              | 26              | 71          | 49          | 47               |
| 1919.....             | 76                             | 226         | 88          | 266              | 163             | 796         | 133         | 416              | 27              | 78          | 55          | 35               |
| 1920.....             | 94                             | 194         | 95          | 299              | 174             | 618         | 123         | 422              | 28 <sup>a</sup> | 72          | 55          | 38               |
| 1921.....             | 90                             | 227         | 91          | 265              | 144             | 673         | 119         | 316              | 27              | 75          | 51          | 33               |
| 1922.....             | 85                             | 235         | 96          | 258              | 126             | 678         | 111         | 256              | 26              | 77          | 51          | 28               |
| 1923.....             | 87                             | 228         | 104         | 263              | 115             | 455         | 100         | 239              | 28              | 73          | 53          | 26               |
| 1924.....             | 83                             | 249         | 115         | 256              | 108             | 515         | 94          | 219              | 24              | 71          | 49          | 28               |
| 1925.....             | 118                            | 241         | 112         | 242              | 126             | 471         | 93          | 234              | 26              | 62          | 49          | 33               |
| 1926.....             | 102                            | 220         | 125         | 249              | 120             | 461         | 103         | 227              | 23              | 59          | 49          | 33               |
| 1927.....             | 111                            | 276         | 123         | 215              | 121             | 515         | 103         | 206              | 25              | 74          | 48          | 17               |
| 1928.....             | 110                            | 251         | 124         | 231              | 125             | 541         | 110         | 203              | 26              | 71          | 47          | 18               |
| 1929.....             | 108                            | 250         | 122         | 241              | 125             | 456         | 109         | 214              | 24              | 72          | 45          | 20               |
| 1930.....             | 85                             | 201         | 114         | 268              | 99              | 369         | 103         | 264              | 22              | 64          | 46          | 28               |
| 1931.....             | 126                            | 198         | 124         | 304              | 137             | 393         | 117         | 303              | 26              | 63          | 31          | 49               |
| 1932.....             | 136                            | 212         | 117         | 291              | 145             | 432         | 113         | 324              | 26              | 70          | 48          | 28               |
| 1933.....             | 89                             | 200         | 118         | 320              | 105             | 348         | 111         | 312              | 24              | 69          | 51          | 35               |
| 1934.....             | 50                             | 140         | 117         | 335              | 53              | 270         | 119         | 405              | 23              | 58          | 57          | 41               |
| 1935.....             | 106                            | 221         | 143         | 240              | 145             | 433         | 141         | 317              | 25              | 71          | 60          | 25               |
| 1936.....             | 54                             | 212         | 132         | 276              | 51              | 377         | 120         | 387              | 24              | 68          | 54          | 29               |
| 1937.....             | 112                            | 215         | 155         | 247              | 123             | 351         | 135         | 361              | 26              | 66          | 57          | 24               |
| 1938.....             | 120                            | 244         | 149         | 259              | 116             | 507         | 129         | 213              | 27              | 73          | 55          | 19               |
| 1939.....             | 116                            | 271         | 135         | 222              | 108             | 509         | 106         | 211              | 28              | 73          | 51          | 18               |
| 1940.....             | 131                            | 283         | 147         | 203              | 103             | 497         | 122         | 206              | 28              | 70          | 51          | 19               |
| 1941.....             | 128                            | 239         | 138         | 238              | 107             | 546         | 119         | 209              | 29              | 75          | 50          | 19               |
| 1942.....             | 139                            | 286         | 124         | 215              | 116             | 579         | 119         | 204              | 31              | 82          | 48          | 17               |
| 1943.....             | 132                            | 292         | 117         | 216              | 115             | 566         | 106         | 183              | 32              | 86          | 46          | 18               |
| 1944.....             | 124                            | 266         | 113         | 221              | 117             | 510         | 94          | 236              | 32              | 82          | 48          | 18               |
| 1945.....             | 141                            | 321         | 115         | 161              | 118             | 511         | 94          | 163              | 32              | 82          | 48          | 14               |
| 1946.....             | 133                            | 337         | 119         | 123              | 115             | 518         | 109         | 172              | 31              | 86          | 49          | 12               |
| 1947.....             | 110                            | 352         | 121         | 110              | 119             | 528         | 119         | 133              | 31              | 89          | 50          | 8                |
| 1948.....             | 144                            | 355         | 138         | 110              | 116             | 483         | 135         | 190              | 32              | 92          | 55          | 8                |
| 1949.....             | 131                            | 330         | 124         | 105              | 110             | 423         | 89          | 227              | 32              | 82          | 59          | 7                |
| 1950.....             | 142                            | 362         | 136         | 95               | 104             | 449         | 88          | 197              | 31              | 85          | 62          | 6                |
| 1951.....             | 158                            | 391         | 129         | 93               | 116             | 494         | 85          | 155              | 32              | 89          | 70          | 6                |
| 1952.....             | 135                            | 351         | 131         | 116              | 109             | 420         | 79          | 181              | 31              | 83          | 66          | 10               |
| 1953.....             | 129                            | 343         | 129         | 112              | 104             | 390         | 75          | 176              | 31              | 82          | 73          | 7                |
| 1954.....             | 129                            | 349         | 142         | 107              | 106             | 397         | 74          | 166              | 31              | 80          | 78          | 4                |
| 1955.....             | 149                            | 372         | 144         | 95               | 103             | 458         | 74          | 131              | 32              | 79          | 77          | 2                |
| 1956.....             | 143                            | 366         | 151         | 102              | 106             | 482         | 78          | 139              | 32              | 76          | 79          | 2                |

<sup>1</sup> Feed for all cattle except dairy cows divided by the live-weight production of cattle and calves. It thus includes the feed for dairy heifers and calves as well as all beef cattle.

TABLE 64.—*Feed consumed by all livestock: Total quantity expressed in feed units, by principal kinds of feeds, 1909-56*<sup>1</sup>

| Year beginning Oct. 1 | Concentrates, seeds, and milk |              |                                 |                        |                |            | Roughage   |                  |                      |            |            | All feed   |
|-----------------------|-------------------------------|--------------|---------------------------------|------------------------|----------------|------------|------------|------------------|----------------------|------------|------------|------------|
|                       | Corn <sup>2</sup>             | Other grains | High-protein feeds <sup>3</sup> | Other by-product feeds | Seeds and milk | Total      | Hay        | Stover and straw | Silage and beet pulp | Pasture    | Total      |            |
|                       | 1,000 tons                    | 1,000 tons   | 1,000 tons                      | 1,000 tons             | 1,000 tons     | 1,000 tons | 1,000 tons | 1,000 tons       | 1,000 tons           | 1,000 tons | 1,000 tons | 1,000 tons |
| 1909.....             | 64,050                        | 15,609       | -----                           | 10,767                 | 5,000          | 95,426     | 34,468     | 18,616           | 810                  | 100,941    | 154,835    | 250,261    |
| 1910.....             | 71,166                        | 16,837       | -----                           | 11,266                 | 5,000          | 104,269    | 30,474     | 21,999           | 973                  | 89,626     | 143,072    | 247,341    |
| 1911.....             | 63,066                        | 15,539       | -----                           | 11,629                 | 5,000          | 95,234     | 26,629     | 24,012           | 1,134                | 104,363    | 156,138    | 251,372    |
| 1912.....             | 71,845                        | 20,837       | -----                           | 12,176                 | 5,000          | 109,858    | 33,226     | 19,308           | 1,458                | 98,094     | 152,086    | 261,944    |
| 1913.....             | 58,029                        | 17,843       | -----                           | 12,422                 | 5,000          | 93,294     | 31,609     | 21,265           | 1,943                | 104,610    | 159,427    | 252,721    |
| 1914.....             | 61,044                        | 16,811       | -----                           | 12,950                 | 5,000          | 95,805     | 32,642     | 21,937           | 2,429                | 121,172    | 178,180    | 273,985    |
| 1915.....             | 69,044                        | 22,500       | -----                           | 13,097                 | 5,000          | 109,641    | 36,576     | 17,260           | 2,916                | 115,384    | 172,136    | 281,777    |
| 1916.....             | 58,162                        | 17,772       | -----                           | 12,838                 | 5,000          | 93,772     | 38,892     | 19,447           | 3,402                | 112,971    | 174,712    | 268,484    |
| 1917.....             | 68,483                        | 21,369       | -----                           | 13,428                 | 5,000          | 108,280    | 34,810     | 23,326           | 3,725                | 112,299    | 174,160    | 282,440    |
| 1918.....             | 60,962                        | 23,144       | -----                           | 13,084                 | 5,000          | 102,190    | 32,916     | 24,067           | 4,051                | 126,731    | 187,765    | 289,955    |
| 1919.....             | 64,568                        | 19,354       | -----                           | 12,974                 | 5,000          | 101,896    | 36,871     | 20,156           | 4,595                | 120,521    | 182,143    | 284,039    |
| 1920.....             | 70,450                        | 22,033       | -----                           | 12,507                 | 5,000          | 109,990    | 33,847     | 21,330           | 4,779                | 113,899    | 173,855    | 283,845    |
| 1921.....             | 71,475                        | 19,080       | -----                           | 12,042                 | 5,000          | 107,597    | 36,659     | 18,846           | 4,613                | 111,458    | 171,576    | 279,173    |
| 1922.....             | 67,990                        | 20,054       | -----                           | 13,407                 | 5,000          | 106,451    | 37,328     | 17,365           | 4,710                | 111,126    | 170,529    | 276,980    |
| 1923.....             | 70,023                        | 22,242       | -----                           | 13,352                 | 5,000          | 110,617    | 36,032     | 17,252           | 5,082                | 105,555    | 163,921    | 274,538    |
| 1924.....             | 54,931                        | 23,204       | -----                           | 13,732                 | 5,000          | 96,867     | 35,772     | 16,068           | 4,898                | 96,462     | 153,200    | 250,067    |
| 1925.....             | 64,734                        | 22,462       | -----                           | 14,462                 | 5,000          | 106,658    | 32,944     | 16,957           | 4,997                | 97,071     | 151,969    | 258,627    |
| 1926.....             | 63,289                        | 20,707       | 7,336                           | 6,462                  | 6,236          | 104,246    | 31,077     | 15,219           | 5,168                | 101,394    | 152,858    | 257,104    |
| 1927.....             | 66,950                        | 21,997       | 6,456                           | 6,999                  | 5,531          | 107,933    | 37,453     | 10,115           | 5,091                | 95,292     | 147,951    | 255,884    |
| 1928.....             | 62,294                        | 24,999       | 7,303                           | 6,874                  | 5,690          | 107,160    | 36,186     | 10,762           | 5,104                | 96,067     | 148,119    | 255,279    |
| 1929.....             | 61,217                        | 24,098       | 7,444                           | 6,983                  | 5,931          | 105,673    | 35,109     | 11,500           | 5,017                | 95,658     | 137,284    | 242,957    |
| 1930.....             | 48,867                        | 27,622       | 6,812                           | 6,789                  | 6,044          | 96,134     | 30,897     | 14,345           | 5,194                | 89,655     | 140,091    | 236,225    |
| 1931.....             | 60,509                        | 25,122       | 6,308                           | 6,092                  | 6,593          | 104,624    | 30,086     | 15,354           | 5,631                | 95,872     | 146,943    | 251,567    |
| 1932.....             | 69,501                        | 23,165       | 6,372                           | 6,168                  | 6,352          | 111,558    | 33,040     | 14,757           | 5,631                | 90,978     | 144,406    | 255,964    |
| 1933.....             | 59,252                        | 15,119       | 6,564                           | 6,100                  | 6,524          | 93,559     | 31,782     | 16,457           | 5,866                | 78,326     | 132,431    | 225,990    |
| 1934.....             | 40,432                        | 13,778       | 6,579                           | 6,184                  | 5,814          | 72,787     | 25,562     | 18,122           | 6,243                | 99,346     | 149,273    | 222,060    |
| 1935.....             | 51,434                        | 22,715       | 8,132                           | 6,548                  | 5,995          | 94,824     | 33,031     | 12,487           | 6,829                | 80,726     | 133,073    | 227,897    |
| 1936.....             | 38,679                        | 17,173       | 8,793                           | 6,621                  | 5,745          | 77,011     | 31,587     | 13,548           | 6,173                | 91,005     | 142,313    | 219,324    |
| 1937.....             | 51,798                        | 24,452       | 9,049                           | 6,386                  | 6,447          | 98,132     | 30,926     | 12,304           | 6,821                | 98,942     | 148,993    | 247,125    |
| 1938.....             | 54,540                        | 23,586       | 9,331                           | 6,791                  | 5,916          | 100,164    | 35,640     | 11,274           | 6,733                | 88,145     | 141,792    | 241,956    |
| 1939.....             | 58,107                        | 23,022       | 9,957                           | 6,648                  | 5,817          | 103,551    | 36,896     | 10,259           | 6,361                | 96,914     | 150,430    | 253,981    |
| 1940.....             | 58,725                        | 26,272       | 11,742                          | 6,785                  | 6,284          | 109,808    | 37,899     | 10,052           | 6,879                | 105,835    | 160,665    | 270,473    |
| 1941.....             | 65,710                        | 29,956       | 12,632                          | 6,659                  | 5,712          | 120,669    | 39,346     | 11,174           | 7,000                | 117,508    | 175,028    | 295,697    |
| 1942.....             | 77,004                        | 40,399       | 15,392                          | 6,624                  | 6,274          | 145,693    | 42,764     | 10,511           | 6,668                | 115,438    | 175,381    | 321,074    |
| 1943.....             | 75,835                        | 38,656       | 15,793                          | 6,755                  | 6,134          | 143,173    | 42,917     | 11,281           | 6,359                | 117,208    | 177,765    | 320,938    |
| 1944.....             | 61,243                        | 31,832       | 15,426                          | 7,410                  | 5,265          | 131,176    | 40,998     | 12,313           | 6,716                | 123,654    | 183,681    | 314,857    |
| 1945.....             | 72,141                        | 35,063       | 14,190                          | 7,229                  | 4,620          | 133,243    | 41,915     | 9,450            | 6,534                | 113,701    | 171,600    | 304,843    |
| 1946.....             | 69,610                        | 26,109       | 14,854                          | 8,553                  | 4,000          | 123,126    | 42,405     | 8,132            | 6,782                | 111,162    | 168,481    | 291,607    |
| 1947.....             | 58,767                        | 26,137       | 15,161                          | 7,951                  | 3,928          | 111,944    | 41,396     | 7,206            | 6,637                | 103,106    | 158,345    | 270,289    |
| 1948.....             | 66,162                        | 26,019       | 17,327                          | 7,804                  | 3,735          | 121,047    | 39,243     | 7,427            | 7,436                | 102,817    | 156,923    | 277,970    |
| 1949.....             | 73,611                        | 24,046       | 18,344                          | 7,852                  | 3,843          | 127,696    | 38,471     | 7,555            | 7,766                | 103,327    | 157,119    | 284,815    |
| 1950.....             | 72,276                        | 27,557       | 20,425                          | 7,707                  | 3,488          | 131,453    | 42,038     | 7,163            | 8,531                | 108,044    | 165,776    | 297,229    |
| 1951.....             | 74,120                        | 27,012       | 21,053                          | 8,343                  | 3,605          | 134,133    | 44,737     | 6,552            | 8,911                | 108,163    | 168,363    | 302,496    |
| 1952.....             | 66,648                        | 23,727       | 20,548                          | 8,521                  | 3,299          | 122,743    | 43,550     | 8,422            | 9,232                | 109,330    | 170,534    | 293,277    |
| 1953.....             | 68,569                        | 24,300       | 21,095                          | 8,909                  | 2,954          | 125,827    | 44,023     | 7,846            | 10,206               | 107,577    | 169,652    | 295,479    |
| 1954.....             | 64,181                        | 28,066       | 20,488                          | 9,151                  | 2,946          | 124,832    | 44,207     | 7,363            | 11,118               | 112,242    | 174,930    | 299,762    |
| 1955.....             | 68,892                        | 29,020       | 21,916                          | 8,664                  | 2,977          | 131,469    | 45,598     | 6,250            | 11,243               | 106,074    | 169,165    | 300,634    |
| 1956.....             | 71,273                        | 26,593       | 23,036                          | 8,608                  | 2,949          | 132,459    | 43,978     | 6,213            | 11,621               | 120,285    | 182,097    | 314,556    |

<sup>1</sup> A feed unit is the equivalent of a pound of corn in feeding value.

<sup>2</sup> Excludes corn in silage.

<sup>3</sup> High-protein feeds grouped with other byproduct feeds, 1909-25.



TABLE 65.—All feed consumed by different kinds of livestock: Total quantity, including pasture, expressed in feed units, 1909–56

| Year beginning Oct. 1 | Dairy cattle | Beef cattle | Sheep and goats | Poultry    | Hogs       | Horses and mules    | Other livestock <sup>1</sup> | Total      |
|-----------------------|--------------|-------------|-----------------|------------|------------|---------------------|------------------------------|------------|
|                       | 1,000 tons   | 1,000 tons  | 1,000 tons      | 1,000 tons | 1,000 tons | 1,000 tons          | 1,000 tons                   | 1,000 tons |
| 1909                  | 54,406       | 54,305      | 20,151          | 12,745     | 36,620     | 63,078              | 8,956                        | 250,261    |
| 1910                  | 52,522       | 48,053      | 18,693          | 13,176     | 41,258     | 64,443              | 9,196                        | 247,341    |
| 1911                  | 54,742       | 51,158      | 20,322          | 12,690     | 39,957     | 63,895              | 8,668                        | 251,372    |
| 1912                  | 56,236       | 51,377      | 18,349          | 12,627     | 43,839     | 69,715              | 9,801                        | 261,944    |
| 1913                  | 54,564       | 55,440      | 17,937          | 13,050     | 40,115     | 63,682              | 7,933                        | 252,721    |
| 1914                  | 58,571       | 67,348      | 18,607          | 12,977     | 43,458     | 65,200              | 7,824                        | 273,985    |
| 1915                  | 61,152       | 70,299      | 17,267          | 13,195     | 44,252     | 67,007              | 8,605                        | 281,777    |
| 1916                  | 59,307       | 70,977      | 15,730          | 12,813     | 39,129     | 63,227              | 7,301                        | 268,484    |
| 1917                  | 62,080       | 71,680      | 15,663          | 14,026     | 43,734     | 67,568              | 7,689                        | 282,440    |
| 1918                  | 63,840       | 77,494      | 18,329          | 14,230     | 41,863     | 67,158              | 7,041                        | 289,955    |
| 1919                  | 65,436       | 73,234      | 17,849          | 14,016     | 40,814     | 66,038              | 6,652                        | 284,039    |
| 1920                  | 64,443       | 70,291      | 17,081          | 15,765     | 43,724     | 65,617 <sup>+</sup> | 6,924                        | 283,845    |
| 1921                  | 65,667       | 68,726      | 15,702          | 15,539     | 44,787     | 62,773              | 5,979                        | 279,173    |
| 1922                  | 65,180       | 67,252      | 16,105          | 15,928     | 46,579     | 60,455              | 5,481                        | 276,980    |
| 1923                  | 68,054       | 61,840      | 15,584          | 17,719     | 44,316     | 61,455              | 5,570                        | 274,538    |
| 1924                  | 64,116       | 54,779      | 15,763          | 16,583     | 38,761     | 55,283              | 4,782                        | 250,067    |
| 1925                  | 65,356       | 54,314      | 17,448          | 18,984     | 41,261     | 56,192              | 5,072                        | 258,627    |
| 1926                  | 65,244       | 51,518      | 19,220          | 19,659     | 42,512     | 54,013              | 4,938                        | 257,104    |
| 1927                  | 67,231       | 47,809      | 19,845          | 19,837     | 44,106     | 52,044              | 5,012                        | 255,884    |
| 1928                  | 68,034       | 48,496      | 21,010          | 19,732     | 43,390     | 50,442              | 4,175                        | 255,279    |
| 1929                  | 62,908       | 42,801      | 20,506          | 20,527     | 41,432     | 50,794              | 3,989                        | 242,957    |
| 1930                  | 64,245       | 43,677      | 20,456          | 18,492     | 39,346     | 46,745              | 3,264                        | 236,225    |
| 1931                  | 69,619       | 49,274      | 21,828          | 20,480     | 42,254     | 44,915              | 3,197                        | 251,567    |
| 1932                  | 69,855       | 51,304      | 20,275          | 20,775     | 45,723     | 44,099              | 3,933                        | 255,964    |
| 1933                  | 64,430       | 47,375      | 16,778          | 17,857     | 39,487     | 36,973              | 3,090                        | 225,990    |
| 1934                  | 70,848       | 48,545      | 19,400          | 16,299     | 27,072     | 37,698              | 2,198                        | 222,060    |
| 1935                  | 66,000       | 46,095      | 18,570          | 20,289     | 32,543     | 40,882              | 3,518                        | 227,897    |
| 1936                  | 69,589       | 45,854      | 18,965          | 16,962     | 31,585     | 34,161              | 2,208                        | 219,324    |
| 1937                  | 74,655       | 50,299      | 21,193          | 19,488     | 39,874     | 38,256              | 3,360                        | 247,125    |
| 1938                  | 73,544       | 49,039      | 20,000          | 20,931     | 40,699     | 34,369              | 3,374                        | 241,956    |
| 1939                  | 77,900       | 52,164      | 21,216          | 21,199     | 44,499     | 33,603              | 3,400                        | 253,981    |
| 1940                  | 80,924       | 59,715      | 23,470          | 24,364     | 44,175     | 34,327              | 3,498                        | 270,473    |
| 1941                  | 90,447       | 64,939      | 24,956          | 27,992     | 50,017     | 33,769              | 3,577                        | 295,697    |
| 1942                  | 92,133       | 69,074      | 23,264          | 33,121     | 66,406     | 32,640              | 4,436                        | 321,074    |
| 1943                  | 92,976       | 74,500      | 21,320          | 32,679     | 63,968     | 30,962              | 4,533                        | 320,938    |
| 1944                  | 97,481       | 78,031      | 20,741          | 33,382     | 51,455     | 29,563              | 4,204                        | 314,857    |
| 1945                  | 89,879       | 75,643      | 18,040          | 31,430     | 55,961     | 29,869              | 4,021                        | 304,843    |
| 1946                  | 90,091       | 74,323      | 16,371          | 29,937     | 49,773     | 27,197              | 3,915                        | 291,607    |
| 1947                  | 85,203       | 68,936      | 14,586          | 28,554     | 45,574     | 24,066              | 3,370                        | 270,289    |
| 1948                  | 85,294       | 73,875      | 13,323          | 31,216     | 48,406     | 22,102              | 3,754                        | 277,970    |
| 1949                  | 86,589       | 75,574      | 12,645          | 33,511     | 51,919     | 20,040              | 4,537                        | 284,815    |
| 1950                  | 88,717       | 84,990      | 12,751          | 33,054     | 55,023     | 17,872              | 4,822                        | 297,229    |
| 1951                  | 87,825       | 94,297      | 12,818          | 32,528     | 54,870     | 15,024              | 5,134                        | 302,496    |
| 1952                  | 87,613       | 98,255      | 12,416          | 32,294     | 44,329     | 13,076              | 5,294                        | 293,277    |
| 1953                  | 88,039       | 98,687      | 11,929          | 33,159     | 46,823     | 11,294              | 5,548                        | 295,479    |
| 1954                  | 87,828       | 104,727     | 12,637          | 30,915     | 47,915     | 10,249              | 5,529                        | 299,800    |
| 1955                  | 87,710       | 102,705     | 12,067          | 33,299     | 50,113     | 9,210               | 5,530                        | 300,634    |
| 1956                  | 91,128       | 111,550     | 13,543          | 33,771     | 50,339     | 8,685               | 5,540                        | 314,556    |

<sup>1</sup> Includes other livestock on farms and all livestock in cities.



TABLE 66.—All concentrates consumed by different kinds of livestock: Total quantity of grain, commercial byproducts, seeds, and milk expressed in feed units, 1909–56

| Year beginning Oct. 1 | Dairy cattle | Beef cattle | Sheep      | Poultry    | Hogs       | Horses and mules | Other livestock <sup>1</sup> | All livestock |
|-----------------------|--------------|-------------|------------|------------|------------|------------------|------------------------------|---------------|
|                       | 1,000 tons   | 1,000 tons  | 1,000 tons | 1,000 tons | 1,000 tons | 1,000 tons       | 1,000 tons                   | 1,000 tons    |
| 1909                  | 11,948       | 3,489       | 1,033      | 11,669     | 35,469     | 26,794           | 5,024                        | 95,426        |
| 1910                  | 12,427       | 4,052       | 1,029      | 12,161     | 40,086     | 29,230           | 5,284                        | 104,269       |
| 1911                  | 11,295       | 3,127       | 895        | 11,516     | 38,567     | 24,954           | 4,880                        | 95,234        |
| 1912                  | 13,301       | 4,428       | 1,053      | 11,531     | 42,504     | 31,088           | 5,953                        | 109,858       |
| 1913                  | 10,631       | 3,189       | 746        | 11,913     | 38,707     | 23,947           | 4,161                        | 93,294        |
| 1914                  | 10,595       | 3,501       | 684        | 11,695     | 41,850     | 23,298           | 4,182                        | 95,805        |
| 1915                  | 13,331       | 6,059       | 802        | 12,052     | 42,677     | 29,707           | 5,013                        | 109,641       |
| 1916                  | 10,636       | 5,412       | 619        | 11,765     | 37,773     | 23,734           | 3,833                        | 93,772        |
| 1917                  | 13,681       | 5,303       | 792        | 12,985     | 42,353     | 28,733           | 4,433                        | 108,280       |
| 1918                  | 12,683       | 5,271       | 724        | 12,975     | 40,258     | 26,306           | 3,973                        | 102,190       |
| 1919                  | 13,717       | 5,225       | 762        | 12,819     | 39,340     | 26,281           | 3,752                        | 101,896       |
| 1920                  | 14,567       | 5,903       | 898        | 14,605     | 42,274     | 27,339           | 4,404                        | 109,990       |
| 1921                  | 14,445       | 5,784       | 753        | 14,330     | 43,256     | 25,477           | 3,552                        | 107,597       |
| 1922                  | 14,425       | 5,295       | 718        | 14,611     | 44,767     | 23,366           | 3,269                        | 106,451       |
| 1923                  | 15,934       | 5,097       | 758        | 16,415     | 42,641     | 26,226           | 3,546                        | 110,617       |
| 1924                  | 14,348       | 4,309       | 753        | 15,320     | 37,318     | 21,869           | 2,950                        | 96,867        |
| 1925                  | 15,893       | 6,171       | 930        | 17,631     | 39,772     | 22,821           | 3,440                        | 106,658       |
| 1926                  | 14,816       | 5,438       | 965        | 18,154     | 40,812     | 20,577           | 3,484                        | 104,246       |
| 1927                  | 15,065       | 5,556       | 1,046      | 18,406     | 42,436     | 21,087           | 3,737                        | 107,933       |
| 1928                  | 16,670       | 5,493       | 1,103      | 18,352     | 41,787     | 20,680           | 3,075                        | 107,160       |
| 1929                  | 15,966       | 5,820       | 1,201      | 19,485     | 40,011     | 20,171           | 3,019                        | 105,673       |
| 1930                  | 14,415       | 5,433       | 971        | 17,512     | 37,926     | 17,533           | 2,344                        | 96,134        |
| 1931                  | 17,611       | 7,314       | 1,286      | 19,443     | 40,655     | 16,018           | 2,297                        | 104,624       |
| 1932                  | 18,295       | 7,927       | 1,333      | 19,807     | 44,216     | 16,939           | 3,041                        | 111,558       |
| 1933                  | 16,129       | 6,094       | 1,037      | 17,106     | 38,339     | 12,616           | 2,238                        | 93,559        |
| 1934                  | 14,489       | 3,708       | 549        | 15,378     | 26,047     | 11,238           | 1,378                        | 72,787        |
| 1935                  | 17,109       | 6,242       | 1,337      | 19,418     | 31,532     | 16,474           | 2,712                        | 94,824        |
| 1936                  | 15,189       | 4,077       | 544        | 16,037     | 30,408     | 9,340            | 1,416                        | 77,011        |
| 1937                  | 17,692       | 6,798       | 1,229      | 18,746     | 38,051     | 13,034           | 2,582                        | 98,132        |
| 1938                  | 18,768       | 7,794       | 1,254      | 20,213     | 38,725     | 10,810           | 2,600                        | 100,164       |
| 1939                  | 19,302       | 7,747       | 1,174      | 20,459     | 42,155     | 10,044           | 2,670                        | 103,551       |
| 1940                  | 20,963       | 9,130       | 1,186      | 23,503     | 41,807     | 10,447           | 2,772                        | 109,808       |
| 1941                  | 22,571       | 9,223       | 1,284      | 27,012     | 47,280     | 10,174           | 3,125                        | 120,669       |
| 1942                  | 24,344       | 10,238      | 1,314      | 32,064     | 63,288     | 10,489           | 3,956                        | 145,693       |
| 1943                  | 24,905       | 10,452      | 1,190      | 31,691     | 60,774     | 10,048           | 4,113                        | 143,173       |
| 1944                  | 25,401       | 10,348      | 1,171      | 32,320     | 48,905     | 9,215            | 3,816                        | 131,176       |
| 1945                  | 24,039       | 11,869      | 1,100      | 30,530     | 53,506     | 8,562            | 3,637                        | 133,243       |
| 1946                  | 23,444       | 11,033      | 963        | 29,076     | 47,388     | 7,680            | 3,542                        | 123,126       |
| 1947                  | 21,840       | 8,862       | 883        | 27,787     | 43,242     | 6,352            | 2,978                        | 111,944       |
| 1948                  | 22,890       | 12,040      | 784        | 30,364     | 45,872     | 5,687            | 3,410                        | 121,047       |
| 1949                  | 23,263       | 12,432      | 754        | 32,694     | 49,215     | 5,179            | 4,159                        | 127,696       |
| 1950                  | 22,587       | 14,713      | 740        | 32,249     | 52,223     | 4,519            | 4,422                        | 131,453       |
| 1951                  | 23,046       | 17,599      | 846        | 31,782     | 52,249     | 3,877            | 4,734                        | 134,133       |
| 1952                  | 23,732       | 16,024      | 865        | 31,599     | 42,138     | 3,491            | 4,894                        | 122,743       |
| 1953                  | 23,533       | 16,029      | 866        | 32,476     | 44,777     | 2,998            | 5,148                        | 125,827       |
| 1954                  | 23,682       | 16,779      | 878        | 30,253     | 45,554     | 2,580            | 5,129                        | 124,855       |
| 1955                  | 24,424       | 18,098      | 857        | 32,665     | 47,853     | 2,442            | 5,130                        | 131,469       |
| 1956                  | 24,938       | 18,496      | 840        | 33,059     | 47,777     | 2,209            | 5,140                        | 132,459       |

<sup>1</sup> Includes other livestock on farms and all livestock in cities.

TABLE 67.—Harvested roughage consumed by different kinds of livestock: Total quantity of hay, silage, stover, and straw expressed in feed units, 1909–56

| Year beginning Oct. 1 | Dairy cattle | Beef cattle | Sheep      | Horses and mules | Other livestock <sup>1</sup> | All livestock |
|-----------------------|--------------|-------------|------------|------------------|------------------------------|---------------|
|                       | 1,000 tons   | 1,000 tons  | 1,000 tons | 1,000 tons       | 1,000 tons                   | 1,000 tons    |
| 1909.....             | 18,447       | 9,520       | 2,171      | 19,824           | 3,932                        | 53,894        |
| 1910.....             | 18,458       | 8,835       | 2,288      | 19,953           | 3,912                        | 53,446        |
| 1911.....             | 17,390       | 8,352       | 1,949      | 20,356           | 3,728                        | 51,775        |
| 1912.....             | 18,484       | 8,771       | 1,967      | 20,922           | 3,848                        | 53,992        |
| 1913.....             | 18,465       | 9,478       | 1,929      | 21,173           | 3,772                        | 54,817        |
| 1914.....             | 19,222       | 10,948      | 2,011      | 21,185           | 3,642                        | 57,008        |
| 1915.....             | 20,909       | 11,819      | 2,080      | 18,352           | 3,592                        | 56,752        |
| 1916.....             | 21,676       | 12,828      | 2,015      | 21,754           | 3,468                        | 61,741        |
| 1917.....             | 21,716       | 13,284      | 1,934      | 21,671           | 3,256                        | 61,861        |
| 1918.....             | 21,589       | 12,845      | 2,040      | 21,492           | 3,068                        | 61,034        |
| 1919.....             | 22,602       | 12,535      | 2,175      | 21,410           | 2,900                        | 61,622        |
| 1920.....             | 22,276       | 12,138      | 2,032      | 20,990           | 2,520                        | 59,956        |
| 1921.....             | 22,760       | 12,102      | 2,013      | 20,816           | 2,427                        | 60,118        |
| 1922.....             | 23,202       | 11,566      | 1,969      | 20,454           | 2,212                        | 59,403        |
| 1923.....             | 23,575       | 11,051      | 1,813      | 19,903           | 2,024                        | 58,366        |
| 1924.....             | 23,521       | 10,155      | 2,063      | 19,167           | 1,832                        | 56,738        |
| 1925.....             | 23,125       | 9,277       | 2,074      | 18,790           | 1,632                        | 54,898        |
| 1926.....             | 20,875       | 8,350       | 2,210      | 18,575           | 1,454                        | 51,464        |
| 1927.....             | 23,344       | 8,119       | 2,508      | 17,413           | 1,275                        | 52,659        |
| 1928.....             | 23,177       | 8,246       | 2,704      | 16,825           | 1,100                        | 52,052        |
| 1929.....             | 23,451       | 8,525       | 2,525      | 16,155           | 970                          | 51,626        |
| 1930.....             | 23,080       | 8,732       | 2,314      | 15,390           | 920                          | 50,436        |
| 1931.....             | 23,870       | 9,092       | 2,355      | 14,854           | 900                          | 51,071        |
| 1932.....             | 25,326       | 10,080      | 2,520      | 14,610           | 892                          | 53,428        |
| 1933.....             | 25,738       | 11,087      | 2,192      | 14,236           | 852                          | 54,105        |
| 1934.....             | 23,985       | 9,640       | 1,927      | 13,555           | 820                          | 49,927        |
| 1935.....             | 25,652       | 9,935       | 2,544      | 13,410           | 806                          | 52,347        |
| 1936.....             | 25,137       | 9,905       | 2,391      | 13,083           | 792                          | 51,308        |
| 1937.....             | 24,982       | 9,321       | 2,437      | 12,533           | 778                          | 50,051        |
| 1938.....             | 26,610       | 10,771      | 2,931      | 12,561           | 774                          | 53,647        |
| 1939.....             | 27,255       | 10,479      | 2,960      | 12,092           | 730                          | 53,516        |
| 1940.....             | 28,108       | 11,073      | 3,127      | 11,796           | 726                          | 54,830        |
| 1941.....             | 30,074       | 11,824      | 3,486      | 11,684           | 452                          | 57,520        |
| 1942.....             | 31,403       | 13,363      | 3,415      | 11,282           | 480                          | 59,943        |
| 1943.....             | 32,168       | 14,319      | 3,003      | 10,647           | 420                          | 60,557        |
| 1944.....             | 32,312       | 14,540      | 2,739      | 10,048           | 388                          | 60,027        |
| 1945.....             | 31,058       | 14,601      | 2,461      | 9,395            | 384                          | 57,899        |
| 1946.....             | 31,998       | 14,239      | 2,267      | 8,442            | 373                          | 57,319        |
| 1947.....             | 31,343       | 13,760      | 1,978      | 7,766            | 392                          | 55,239        |
| 1948.....             | 30,882       | 14,073      | 1,772      | 7,035            | 344                          | 54,106        |
| 1949.....             | 31,012       | 14,460      | 1,588      | 6,354            | 378                          | 53,792        |
| 1950.....             | 32,632       | 17,206      | 1,682      | 5,812            | 400                          | 57,732        |
| 1951.....             | 33,770       | 19,322      | 1,827      | 4,881            | 400                          | 60,200        |
| 1952.....             | 33,818       | 21,006      | 1,728      | 4,252            | 400                          | 61,204        |
| 1953.....             | 34,632       | 21,711      | 1,612      | 3,720            | 400                          | 62,075        |
| 1954.....             | 34,369       | 22,808      | 1,728      | 3,383            | 400                          | 62,688        |
| 1955.....             | 34,365       | 23,266      | 1,920      | 3,140            | 400                          | 63,091        |
| 1956.....             | 33,839       | 23,053      | 1,896      | 2,624            | 400                          | 61,812        |

<sup>1</sup> Includes livestock in cities.

TABLE 68.—*Pasture and grazing consumed by different kinds of livestock: Total quantity expressed in feed units, 1909-56*

| Year beginning Oct. 1 | Dairy cattle | Beef cattle | Sheep      | Goats      | Horses and mules | Hogs and poultry | All livestock |
|-----------------------|--------------|-------------|------------|------------|------------------|------------------|---------------|
|                       | 1,000 tons   | 1,000 tons  | 1,000 tons | 1,000 tons | 1,000 tons       | 1,000 tons       | 1,000 tons    |
| 1909.....             | 24, 011      | 41, 296     | 15, 885    | 1, 062     | 16, 460          | 2, 227           | 100, 941      |
| 1910.....             | 21, 637      | 35, 166     | 14, 418    | 958        | 15, 260          | 2, 187           | 89, 626       |
| 1911.....             | 26, 057      | 39, 679     | 16, 333    | 1, 145     | 18, 685          | 2, 564           | 104, 363      |
| 1912.....             | 24, 451      | 38, 178     | 14, 257    | 1, 072     | 17, 705          | 2, 431           | 98, 094       |
| 1913.....             | 25, 468      | 42, 773     | 14, 159    | 1, 103     | 18, 562          | 2, 545           | 104, 610      |
| 1914.....             | 28, 754      | 52, 899     | 14, 694    | 1, 218     | 20, 717          | 2, 890           | 121, 172      |
| 1915.....             | 26, 912      | 52, 421     | 13, 271    | 1, 114     | 18, 948          | 2, 718           | 115, 384      |
| 1916.....             | 26, 995      | 52, 737     | 12, 055    | 1, 041     | 17, 739          | 2, 404           | 112, 971      |
| 1917.....             | 26, 683      | 53, 093     | 11, 927    | 1, 010     | 17, 164          | 2, 422           | 112, 299      |
| 1918.....             | 29, 568      | 59, 378     | 14, 409    | 1, 156     | 19, 360          | 2, 860           | 126, 731      |
| 1919.....             | 29, 117      | 55, 474     | 13, 777    | 1, 135     | 18, 347          | 2, 671           | 120, 521      |
| 1920.....             | 27, 600      | 52, 250     | 12, 972    | 1, 179     | 17, 288          | 2, 610           | 113, 899      |
| 1921.....             | 28, 462      | 50, 840     | 11, 904    | 1, 032     | 16, 480          | 2, 740           | 111, 458      |
| 1922.....             | 27, 553      | 50, 391     | 12, 322    | 1, 096     | 16, 635          | 3, 129           | 111, 126      |
| 1923.....             | 28, 545      | 45, 692     | 11, 858    | 1, 155     | 15, 326          | 2, 979           | 105, 555      |
| 1924.....             | 26, 247      | 40, 315     | 11, 829    | 1, 118     | 14, 247          | 2, 706           | 96, 462       |
| 1925.....             | 26, 338      | 38, 866     | 13, 014    | 1, 430     | 14, 581          | 2, 842           | 97, 071       |
| 1926.....             | 29, 553      | 37, 730     | 14, 464    | 1, 581     | 14, 861          | 3, 205           | 101, 394      |
| 1927.....             | 28, 222      | 34, 134     | 14, 591    | 1, 700     | 13, 544          | 3, 101           | 95, 292       |
| 1928.....             | 28, 187      | 34, 757     | 15, 448    | 1, 785     | 12, 937          | 2, 983           | 96, 067       |
| 1929.....             | 23, 491      | 28, 456     | 15, 026    | 1, 754     | 14, 468          | 2, 463           | 85, 658       |
| 1930.....             | 26, 750      | 29, 512     | 15, 347    | 1, 824     | 13, 822          | 2, 400           | 89, 655       |
| 1931.....             | 28, 138      | 32, 868     | 16, 376    | 1, 811     | 14, 043          | 2, 636           | 95, 872       |
| 1932.....             | 26, 234      | 33, 297     | 14, 802    | 1, 620     | 12, 550          | 2, 475           | 90, 978       |
| 1933.....             | 22, 563      | 30, 194     | 12, 274    | 1, 275     | 10, 121          | 1, 899           | 78, 326       |
| 1934.....             | 32, 374      | 35, 197     | 15, 418    | 1, 506     | 12, 905          | 1, 946           | 99, 346       |
| 1935.....             | 23, 239      | 29, 918     | 13, 316    | 1, 373     | 10, 998          | 1, 882           | 80, 726       |
| 1936.....             | 29, 263      | 31, 872     | 14, 502    | 1, 528     | 11, 738          | 2, 102           | 91, 005       |
| 1937.....             | 31, 981      | 34, 180     | 16, 034    | 1, 493     | 12, 689          | 2, 565           | 98, 942       |
| 1938.....             | 28, 166      | 30, 474     | 14, 430    | 1, 385     | 10, 998          | 2, 692           | 88, 145       |
| 1939.....             | 31, 343      | 33, 938     | 15, 524    | 1, 558     | 11, 467          | 3, 084           | 96, 914       |
| 1940.....             | 31, 853      | 39, 512     | 17, 375    | 1, 782     | 12, 084          | 3, 229           | 105, 835      |
| 1941.....             | 37, 802      | 43, 892     | 18, 456    | 1, 730     | 11, 911          | 3, 717           | 117, 508      |
| 1942.....             | 36, 386      | 45, 473     | 16, 934    | 1, 601     | 10, 869          | 4, 175           | 115, 438      |
| 1943.....             | 35, 903      | 49, 729     | 15, 592    | 1, 535     | 10, 267          | 4, 182           | 117, 208      |
| 1944.....             | 39, 768      | 53, 143     | 15, 132    | 1, 699     | 10, 300          | 3, 612           | 123, 654      |
| 1945.....             | 34, 782      | 49, 173     | 13, 007    | 1, 472     | 11, 912          | 3, 355           | 113, 701      |
| 1946.....             | 34, 649      | 49, 051     | 11, 741    | 1, 400     | 11, 075          | 3, 246           | 111, 162      |
| 1947.....             | 32, 020      | 46, 314     | 10, 542    | 1, 183     | 9, 948           | 3, 099           | 103, 106      |
| 1948.....             | 31, 522      | 47, 762     | 9, 783     | 984        | 9, 380           | 3, 386           | 102, 817      |
| 1949.....             | 32, 314      | 48, 682     | 9, 339     | 964        | 8, 507           | 3, 521           | 103, 327      |
| 1950.....             | 33, 498      | 53, 071     | 9, 405     | 924        | 7, 541           | 3, 605           | 108, 044      |
| 1951.....             | 31, 009      | 57, 376     | 9, 333     | 812        | 6, 266           | 3, 367           | 108, 163      |
| 1952.....             | 30, 063      | 61, 225     | 9, 019     | 804        | 5, 333           | 2, 886           | 109, 330      |
| 1953.....             | 29, 874      | 60, 947     | 8, 579     | 872        | 4, 576           | 2, 729           | 107, 577      |
| 1954.....             | 29, 762      | 65, 140     | 8, 996     | 1, 035     | 4, 286           | 3, 023           | 112, 242      |
| 1955.....             | 28, 921      | 61, 341     | 8, 271     | 1, 019     | 3, 628           | 2, 894           | 106, 074      |
| 1956.....             | 32, 351      | 70, 001     | 9, 562     | 1, 245     | 3, 852           | 3, 274           | 120, 285      |

TABLE 69.—All roughage consumed by different kinds of livestock: Total quantity of hay, straw, silage, and pasture expressed in feed units, 1909-56

| Year beginning Oct. 1 | Dairy cattle | Beef cattle | Sheep      | Goats      | Horses and mules | Hogs and poultry | Other livestock <sup>1</sup> | All livestock |
|-----------------------|--------------|-------------|------------|------------|------------------|------------------|------------------------------|---------------|
|                       | 1,000 tons   | 1,000 tons  | 1,000 tons | 1,000 tons | 1,000 tons       | 1,000 tons       | 1,000 tons                   | 1,000 tons    |
| 1909.....             | 42,458       | 50,816      | 18,056     | 1,062      | 36,284           | 2,227            | 3,932                        | 154,835       |
| 1910.....             | 40,095       | 44,001      | 16,706     | 958        | 35,213           | 2,187            | 3,912                        | 143,072       |
| 1911.....             | 43,447       | 48,081      | 18,282     | 1,145      | 38,941           | 2,564            | 3,728                        | 156,138       |
| 1912.....             | 42,035       | 46,949      | 16,224     | 1,072      | 38,627           | 2,431            | 3,848                        | 152,086       |
| 1913.....             | 43,933       | 52,251      | 16,088     | 1,103      | 39,735           | 2,545            | 3,772                        | 159,427       |
| 1914.....             | 47,976       | 63,847      | 16,705     | 1,218      | 41,902           | 2,890            | 3,642                        | 178,180       |
| 1915.....             | 47,821       | 64,240      | 15,351     | 1,114      | 37,300           | 2,718            | 3,592                        | 172,136       |
| 1916.....             | 48,671       | 65,565      | 14,070     | 1,041      | 39,493           | 2,404            | 3,468                        | 174,712       |
| 1917.....             | 48,390       | 66,377      | 13,861     | 1,010      | 38,835           | 2,422            | 3,256                        | 174,160       |
| 1918.....             | 51,157       | 72,223      | 16,449     | 1,156      | 40,852           | 2,860            | 3,068                        | 187,765       |
| 1919.....             | 51,719       | 68,009      | 15,932     | 1,135      | 39,757           | 2,671            | 2,900                        | 182,143       |
| 1920.....             | 49,876       | 64,388      | 15,004     | 1,179      | 38,278           | 2,610            | 2,520                        | 173,855       |
| 1921.....             | 51,222       | 62,942      | 13,917     | 1,032      | 37,296           | 2,740            | 2,427                        | 171,576       |
| 1922.....             | 50,755       | 61,957      | 14,201     | 1,096      | 37,089           | 3,129            | 2,212                        | 170,329       |
| 1923.....             | 52,120       | 56,743      | 13,671     | 1,155      | 35,229           | 2,979            | 2,024                        | 163,921       |
| 1924.....             | 49,768       | 50,470      | 13,892     | 1,118      | 33,414           | 2,706            | 1,832                        | 153,200       |
| 1925.....             | 49,463       | 48,143      | 15,088     | 1,430      | 33,371           | 2,842            | 1,632                        | 151,969       |
| 1926.....             | 50,428       | 46,080      | 16,674     | 1,581      | 33,436           | 3,205            | 1,454                        | 152,858       |
| 1927.....             | 51,566       | 42,253      | 17,090     | 1,700      | 30,957           | 3,101            | 1,275                        | 147,951       |
| 1928.....             | 51,364       | 43,003      | 18,152     | 1,755      | 29,762           | 2,983            | 1,100                        | 148,119       |
| 1929.....             | 46,942       | 36,981      | 17,551     | 1,754      | 30,623           | 2,463            | 970                          | 137,284       |
| 1930.....             | 49,830       | 38,244      | 17,661     | 1,824      | 29,212           | 2,400            | 920                          | 140,091       |
| 1931.....             | 52,008       | 41,960      | 18,731     | 1,811      | 28,897           | 2,636            | 900                          | 146,943       |
| 1932.....             | 51,560       | 43,377      | 17,322     | 1,620      | 27,160           | 2,475            | 892                          | 144,406       |
| 1933.....             | 48,301       | 41,281      | 14,466     | 1,275      | 24,357           | 1,899            | 852                          | 132,431       |
| 1934.....             | 56,359       | 44,837      | 17,345     | 1,506      | 26,400           | 1,946            | 820                          | 149,273       |
| 1935.....             | 48,891       | 39,853      | 15,860     | 1,373      | 24,408           | 1,882            | 806                          | 133,073       |
| 1936.....             | 54,400       | 41,777      | 16,893     | 1,528      | 24,821           | 2,102            | 792                          | 142,313       |
| 1937.....             | 56,963       | 43,501      | 18,471     | 1,493      | 25,222           | 2,565            | 778                          | 148,993       |
| 1938.....             | 54,776       | 41,245      | 17,361     | 1,385      | 23,559           | 2,692            | 774                          | 141,792       |
| 1939.....             | 58,598       | 44,417      | 18,484     | 1,558      | 23,559           | 3,084            | 730                          | 150,430       |
| 1940.....             | 59,961       | 50,585      | 20,502     | 1,782      | 23,880           | 3,229            | 726                          | 160,665       |
| 1941.....             | 67,876       | 55,716      | 21,942     | 1,730      | 23,595           | 3,717            | 452                          | 175,028       |
| 1942.....             | 67,789       | 58,836      | 20,349     | 1,601      | 22,151           | 4,175            | 480                          | 175,381       |
| 1943.....             | 68,071       | 64,048      | 18,395     | 1,535      | 20,914           | 4,182            | 420                          | 177,765       |
| 1944.....             | 72,080       | 67,683      | 17,871     | 1,699      | 20,348           | 3,612            | 388                          | 183,681       |
| 1945.....             | 65,840       | 63,774      | 15,468     | 1,472      | 21,307           | 3,355            | 384                          | 171,600       |
| 1946.....             | 66,647       | 63,290      | 14,008     | 1,400      | 19,517           | 3,246            | 373                          | 168,481       |
| 1947.....             | 63,363       | 60,074      | 12,520     | 1,183      | 17,714           | 3,099            | 392                          | 158,345       |
| 1948.....             | 62,404       | 61,835      | 11,555     | 984        | 16,415           | 3,386            | 344                          | 156,923       |
| 1949.....             | 63,326       | 63,142      | 10,927     | 964        | 14,861           | 3,521            | 378                          | 157,119       |
| 1950.....             | 66,130       | 70,277      | 11,087     | 924        | 13,353           | 3,605            | 400                          | 165,776       |
| 1951.....             | 64,779       | 76,698      | 11,160     | 812        | 11,147           | 3,367            | 400                          | 168,363       |
| 1952.....             | 63,881       | 82,231      | 10,747     | 804        | 9,585            | 2,886            | 400                          | 170,534       |
| 1953.....             | 64,506       | 82,658      | 10,191     | 872        | 8,296            | 2,729            | 400                          | 169,652       |
| 1954.....             | 64,131       | 87,948      | 10,724     | 1,035      | 7,669            | 3,023            | 400                          | 174,930       |
| 1955.....             | 63,286       | 84,607      | 10,191     | 1,019      | 6,768            | 2,894            | 400                          | 169,165       |
| 1956.....             | 66,190       | 93,054      | 11,458     | 1,245      | 6,476            | 3,274            | 400                          | 182,097       |

<sup>1</sup> Includes livestock in cities.



TABLE 70.—*Feed consumed by dairy cattle: Total quantity expressed in feed units, by principal kinds of feed, 1909-56*

| Year beginning Oct. 1 | Concentrates, seeds, and milk |              |                                 |                        |                |            | Roughage   |                  |            |            |            | All feed   |
|-----------------------|-------------------------------|--------------|---------------------------------|------------------------|----------------|------------|------------|------------------|------------|------------|------------|------------|
|                       | Corn                          | Other grains | High-protein feeds <sup>1</sup> | Other by-product feeds | Seeds and milk | Total      | Hay        | Stover and straw | Silage     | Pasture    | Total      |            |
|                       | 1,000 tons                    | 1,000 tons   | 1,000 tons                      | 1,000 tons             | 1,000 tons     | 1,000 tons | 1,000 tons | 1,000 tons       | 1,000 tons | 1,000 tons | 1,000 tons | 1,000 tons |
| 1909                  | 4,205                         | 2,774        | -----                           | 3,169                  | 1,800          | 11,948     | 12,576     | 5,205            | 666        | 24,011     | 42,458     | 54,496     |
| 1910                  | 4,510                         | 3,000        | -----                           | 3,117                  | 1,800          | 12,427     | 11,722     | 5,937            | 799        | 21,637     | 40,095     | 52,522     |
| 1911                  | 4,120                         | 2,374        | -----                           | 3,001                  | 1,800          | 11,295     | 9,464      | 6,995            | 931        | 26,057     | 43,447     | 54,742     |
| 1912                  | 4,410                         | 3,801        | -----                           | 3,290                  | 1,800          | 13,201     | 11,626     | 5,659            | 1,199      | 24,451     | 42,935     | 56,236     |
| 1913                  | 2,820                         | 2,721        | -----                           | 3,290                  | 1,800          | 10,631     | 10,880     | 5,985            | 1,600      | 25,468     | 43,933     | 54,564     |
| 1914                  | 2,740                         | 2,583        | -----                           | 3,472                  | 1,800          | 10,595     | 11,640     | 5,583            | 1,999      | 28,754     | 47,976     | 58,571     |
| 1915                  | 3,965                         | 4,087        | -----                           | 3,479                  | 1,800          | 13,331     | 13,472     | 5,040            | 2,397      | 26,912     | 47,821     | 61,152     |
| 1916                  | 2,670                         | 2,785        | -----                           | 3,381                  | 1,800          | 10,636     | 14,280     | 4,600            | 2,796      | 26,995     | 48,671     | 59,307     |
| 1917                  | 4,290                         | 3,921        | -----                           | 3,680                  | 1,800          | 13,681     | 13,240     | 5,415            | 3,061      | 25,683     | 48,399     | 62,080     |
| 1918                  | 2,900                         | 4,131        | -----                           | 3,852                  | 1,800          | 12,683     | 12,640     | 5,619            | 3,380      | 29,568     | 51,157     | 63,840     |
| 1919                  | 4,410                         | 3,425        | -----                           | 4,082                  | 1,800          | 13,717     | 14,331     | 4,494            | 3,777      | 29,117     | 51,719     | 65,436     |
| 1920                  | 4,425                         | 4,145        | -----                           | 4,197                  | 1,800          | 14,567     | 13,379     | 4,960            | 3,937      | 27,600     | 49,876     | 64,443     |
| 1921                  | 4,925                         | 3,408        | -----                           | 4,312                  | 1,800          | 14,445     | 14,536     | 4,425            | 3,799      | 28,462     | 51,222     | 65,667     |
| 1922                  | 5,155                         | 3,503        | -----                           | 3,967                  | 1,800          | 14,425     | 15,240     | 4,074            | 3,888      | 27,553     | 50,755     | 65,180     |
| 1923                  | 5,550                         | 3,927        | -----                           | 4,657                  | 1,800          | 15,934     | 15,280     | 4,071            | 4,224      | 28,545     | 52,120     | 68,054     |
| 1924                  | 3,730                         | 4,391        | -----                           | 4,427                  | 1,800          | 14,348     | 15,248     | 4,233            | 4,040      | 26,247     | 49,768     | 64,116     |
| 1925                  | 5,250                         | 4,301        | -----                           | 4,542                  | 1,800          | 15,893     | 13,960     | 4,960            | 4,205      | 26,338     | 49,463     | 65,356     |
| 1926                  | 4,713                         | 3,695        | 2,355                           | 1,920                  | 2,133          | 14,816     | 13,405     | 3,072            | 4,398      | 29,553     | 50,428     | 65,241     |
| 1927                  | 5,584                         | 3,789        | 2,122                           | 2,300                  | 1,870          | 15,665     | 17,456     | 1,542            | 4,346      | 28,222     | 51,566     | 67,233     |
| 1928                  | 5,976                         | 4,056        | 2,401                           | 2,313                  | 1,924          | 16,770     | 17,091     | 1,752            | 4,354      | 28,187     | 51,364     | 68,034     |
| 1929                  | 3,745                         | 5,005        | 2,599                           | 2,579                  | 2,038          | 15,966     | 17,050     | 2,162            | 4,239      | 23,491     | 46,942     | 62,908     |
| 1930                  | 2,422                         | 4,999        | 2,292                           | 2,662                  | 2,040          | 14,415     | 15,380     | 3,292            | 4,408      | 26,750     | 49,830     | 64,245     |
| 1931                  | 3,646                         | 6,321        | 2,204                           | 3,184                  | 2,256          | 17,611     | 15,463     | 3,602            | 4,805      | 28,138     | 52,008     | 69,619     |
| 1932                  | 5,421                         | 5,623        | 2,154                           | 2,943                  | 2,154          | 18,295     | 17,346     | 3,200            | 4,780      | 26,234     | 51,560     | 69,855     |
| 1933                  | 4,541                         | 4,104        | 2,327                           | 2,907                  | 2,250          | 16,129     | 16,774     | 3,997            | 4,967      | 22,563     | 48,301     | 64,430     |
| 1934                  | 4,334                         | 3,133        | 1,959                           | 3,067                  | 1,997          | 14,489     | 13,821     | 4,785            | 5,379      | 32,374     | 56,359     | 70,848     |
| 1935                  | 3,076                         | 6,065        | 2,966                           | 2,900                  | 2,102          | 17,109     | 17,176     | 2,757            | 5,719      | 23,239     | 48,891     | 66,000     |
| 1936                  | 2,883                         | 4,597        | 2,717                           | 2,986                  | 2,006          | 15,189     | 16,512     | 3,416            | 5,209      | 29,263     | 54,400     | 69,589     |
| 1937                  | 3,468                         | 6,488        | 2,678                           | 2,780                  | 2,278          | 17,692     | 16,532     | 2,756            | 5,694      | 31,981     | 56,963     | 74,655     |
| 1938                  | 5,304                         | 5,829        | 2,706                           | 2,863                  | 2,066          | 18,768     | 19,059     | 1,929            | 5,622      | 28,166     | 54,776     | 73,544     |
| 1939                  | 6,081                         | 5,830        | 2,814                           | 2,531                  | 2,046          | 19,302     | 19,984     | 1,950            | 5,341      | 31,343     | 58,598     | 77,900     |
| 1940                  | 6,488                         | 6,731        | 3,100                           | 2,434                  | 2,210          | 20,963     | 20,418     | 2,067            | 5,623      | 31,853     | 59,961     | 80,924     |
| 1941                  | 7,927                         | 6,926        | 3,356                           | 2,341                  | 2,021          | 22,571     | 21,883     | 2,486            | 5,705      | 37,802     | 67,876     | 90,447     |
| 1942                  | 8,486                         | 7,865        | 3,671                           | 2,048                  | 2,274          | 24,344     | 23,612     | 2,349            | 5,442      | 36,386     | 67,789     | 92,133     |
| 1943                  | 9,371                         | 6,936        | 4,134                           | 2,187                  | 2,277          | 24,905     | 24,367     | 2,586            | 5,215      | 35,903     | 68,071     | 92,976     |
| 1944                  | 9,813                         | 6,565        | 4,574                           | 2,507                  | 1,942          | 25,401     | 24,054     | 2,676            | 5,582      | 39,768     | 72,080     | 97,481     |
| 1945                  | 8,809                         | 7,211        | 3,934                           | 2,399                  | 1,686          | 24,039     | 23,761     | 1,893            | 5,404      | 34,782     | 65,840     | 89,879     |
| 1946                  | 8,756                         | 6,716        | 3,806                           | 2,716                  | 1,450          | 23,444     | 24,997     | 1,405            | 5,596      | 34,649     | 66,647     | 90,091     |
| 1947                  | 7,748                         | 6,484        | 3,865                           | 2,403                  | 1,340          | 21,840     | 24,944     | 905              | 5,494      | 32,020     | 63,363     | 85,203     |
| 1948                  | 8,642                         | 6,571        | 4,034                           | 2,408                  | 1,235          | 22,890     | 23,911     | 877              | 6,094      | 31,522     | 62,404     | 85,294     |
| 1949                  | 9,353                         | 6,005        | 3,833                           | 2,489                  | 1,583          | 23,263     | 23,959     | 738              | 6,315      | 32,314     | 63,326     | 86,589     |
| 1950                  | 8,486                         | 6,582        | 3,746                           | 2,306                  | 1,467          | 22,587     | 25,231     | 661              | 6,740      | 33,498     | 66,130     | 88,717     |
| 1951                  | 8,620                         | 6,397        | 3,762                           | 2,759                  | 1,508          | 23,046     | 25,960     | 585              | 7,225      | 31,009     | 64,779     | 87,825     |
| 1952                  | 9,855                         | 5,808        | 4,002                           | 2,717                  | 1,350          | 23,732     | 25,393     | 1,248            | 7,177      | 30,063     | 63,881     | 87,613     |
| 1953                  | 9,777                         | 5,962        | 3,905                           | 2,674                  | 1,215          | 23,533     | 25,677     | 887              | 8,068      | 29,874     | 64,506     | 88,039     |
| 1954                  | 8,731                         | 7,026        | 3,818                           | 2,843                  | 1,264          | 23,682     | 25,150     | 536              | 8,683      | 29,762     | 64,131     | 87,813     |
| 1955                  | 9,176                         | 7,150        | 4,012                           | 2,753                  | 1,333          | 24,424     | 25,299     | 270              | 8,796      | 28,921     | 63,286     | 87,710     |
| 1956                  | 10,532                        | 6,255        | 4,167                           | 2,677                  | 1,307          | 24,938     | 24,503     | 241              | 9,095      | 32,351     | 66,190     | 91,128     |

<sup>1</sup> High-protein feeds grouped with other byproduct feeds, 1909-25.

TABLE 71.—*Feed consumed by beef cattle: Total quantity expressed in feed units, by principal kinds of feed, 1909-56*

| Year beginning Oct. 1 | Concentrates and seeds |              |                                 |                        |            | Roughage   |            |                  |            |            | All feed   |            |
|-----------------------|------------------------|--------------|---------------------------------|------------------------|------------|------------|------------|------------------|------------|------------|------------|------------|
|                       | Corn                   | Other grains | High-protein feeds <sup>1</sup> | Other by-product feeds | Seeds      | Total      | Hay        | Stover and straw | Silage     | Pasture    |            | Total      |
|                       | 1,000 tons             | 1,000 tons   | 1,000 tons                      | 1,000 tons             | 1,000 tons | 1,000 tons | 1,000 tons | 1,000 tons       | 1,000 tons | 1,000 tons | 1,000 tons | 1,000 tons |
| 1909                  | 1,940                  | 587          |                                 | 662                    | 300        | 3,489      | 3,520      | 5,875            | 125        | 41,296     | 50,816     | 54,305     |
| 1910                  | 2,440                  | 612          |                                 | 700                    | 300        | 4,052      | 2,120      | 6,564            | 151        | 35,166     | 44,001     | 48,053     |
| 1911                  | 1,470                  | 607          |                                 | 750                    | 300        | 3,127      | 2,345      | 5,830            | 177        | 39,679     | 48,031     | 51,158     |
| 1912                  | 2,435                  | 818          |                                 | 875                    | 300        | 4,428      | 3,280      | 5,264            | 227        | 38,178     | 46,949     | 51,377     |
| 1913                  | 1,420                  | 669          |                                 | 800                    | 300        | 3,189      | 3,397      | 5,780            | 301        | 42,773     | 52,251     | 55,440     |
| 1914                  | 1,700                  | 663          |                                 | 838                    | 300        | 3,501      | 3,640      | 6,931            | 377        | 52,899     | 63,847     | 67,348     |
| 1915                  | 3,890                  | 931          |                                 | 938                    | 300        | 6,059      | 4,200      | 7,165            | 454        | 52,421     | 64,240     | 70,299     |
| 1916                  | 3,545                  | 692          |                                 | 875                    | 300        | 5,412      | 4,960      | 7,340            | 528        | 52,737     | 65,565     | 70,977     |
| 1917                  | 3,220                  | 845          |                                 | 938                    | 300        | 5,303      | 4,046      | 8,660            | 578        | 53,093     | 66,377     | 71,680     |
| 1918                  | 3,200                  | 959          |                                 | 812                    | 300        | 5,271      | 3,720      | 8,496            | 629        | 59,378     | 72,223     | 77,494     |
| 1919                  | 3,320                  | 793          |                                 | 812                    | 300        | 5,225      | 4,720      | 7,102            | 713        | 55,474     | 68,009     | 73,234     |
| 1920                  | 3,960                  | 893          |                                 | 750                    | 300        | 5,903      | 3,800      | 7,605            | 733        | 52,250     | 64,388     | 70,291     |
| 1921                  | 3,955                  | 779          |                                 | 750                    | 300        | 5,784      | 4,580      | 6,813            | 709        | 50,840     | 62,942     | 68,726     |
| 1922                  | 3,300                  | 820          |                                 | 875                    | 300        | 5,295      | 4,600      | 6,253            | 713        | 50,391     | 61,957     | 67,252     |
| 1923                  | 2,990                  | 932          |                                 | 875                    | 300        | 5,097      | 4,160      | 6,146            | 745        | 45,692     | 56,743     | 61,840     |
| 1924                  | 2,070                  | 939          |                                 | 1,000                  | 300        | 4,309      | 4,040      | 5,370            | 745        | 40,315     | 50,470     | 54,779     |
| 1925                  | 3,720                  | 901          |                                 | 1,250                  | 300        | 6,171      | 3,720      | 4,885            | 672        | 38,866     | 48,143     | 54,314     |
| 1926                  | 2,540                  | 925          | 1,118                           | 430                    | 425        | 5,438      | 3,403      | 4,315            | 632        | 37,730     | 46,080     | 51,518     |
| 1927                  | 2,785                  | 1,065        | 908                             | 448                    | 350        | 5,556      | 3,652      | 3,868            | 599        | 34,134     | 42,253     | 47,809     |
| 1928                  | 2,460                  | 1,220        | 1,035                           | 428                    | 350        | 5,493      | 3,393      | 4,245            | 608        | 34,757     | 43,003     | 48,496     |
| 1929                  | 3,275                  | 747          | 1,042                           | 368                    | 388        | 5,820      | 3,859      | 4,058            | 608        | 28,456     | 36,981     | 42,801     |
| 1930                  | 2,875                  | 902          | 905                             | 376                    | 375        | 5,433      | 3,403      | 4,713            | 616        | 29,512     | 38,244     | 43,677     |
| 1931                  | 4,620                  | 1,114        | 842                             | 276                    | 462        | 7,314      | 3,092      | 5,352            | 648        | 32,868     | 41,960     | 49,274     |
| 1932                  | 5,305                  | 1,093        | 824                             | 293                    | 412        | 7,927      | 3,652      | 5,747            | 681        | 33,297     | 43,377     | 51,304     |
| 1933                  | 3,720                  | 603          | 970                             | 301                    | 500        | 6,094      | 3,733      | 6,625            | 729        | 30,194     | 41,281     | 47,375     |
| 1934                  | 1,765                  | 325          | 1,063                           | 167                    | 388        | 3,708      | 2,329      | 6,625            | 686        | 35,197     | 44,837     | 48,545     |
| 1935                  | 3,800                  | 748          | 925                             | 331                    | 438        | 6,242      | 4,109      | 4,927            | 899        | 29,918     | 39,853     | 46,095     |
| 1936                  | 1,990                  | 230          | 1,230                           | 202                    | 425        | 4,077      | 3,693      | 5,434            | 778        | 31,872     | 41,777     | 45,854     |
| 1937                  | 4,052                  | 678          | 1,212                           | 331                    | 525        | 6,798      | 3,673      | 4,741            | 907        | 34,180     | 43,501     | 50,299     |
| 1938                  | 4,850                  | 1,010        | 1,178                           | 331                    | 425        | 7,794      | 4,092      | 5,780            | 899        | 30,474     | 41,245     | 49,039     |
| 1939                  | 4,885                  | 907          | 1,210                           | 333                    | 412        | 7,747      | 4,648      | 4,989            | 842        | 33,938     | 44,417     | 52,164     |
| 1940                  | 5,468                  | 1,229        | 1,616                           | 342                    | 475        | 9,130      | 5,151      | 4,885            | 1,037      | 39,512     | 50,585     | 59,715     |
| 1941                  | 5,485                  | 1,271        | 1,747                           | 320                    | 400        | 9,223      | 4,806      | 5,944            | 1,074      | 43,892     | 55,716     | 64,939     |
| 1942                  | 6,115                  | 1,603        | 1,689                           | 293                    | 538        | 10,238     | 6,951      | 5,395            | 1,017      | 45,473     | 58,836     | 69,074     |
| 1943                  | 6,155                  | 1,364        | 2,057                           | 301                    | 575        | 10,452     | 7,490      | 5,856            | 973        | 49,729     | 64,048     | 74,500     |
| 1944                  | 6,260                  | 1,349        | 1,961                           | 340                    | 438        | 10,348     | 7,158      | 6,394            | 988        | 53,143     | 67,683     | 78,031     |
| 1945                  | 7,400                  | 1,453        | 2,164                           | 490                    | 362        | 11,869     | 8,985      | 4,624            | 992        | 49,173     | 63,774     | 75,643     |
| 1946                  | 7,082                  | 1,071        | 2,090                           | 528                    | 262        | 11,033     | 9,467      | 3,729            | 1,043      | 49,051     | 63,290     | 74,323     |
| 1947                  | 5,335                  | 822          | 2,006                           | 449                    | 250        | 8,862      | 9,387      | 3,368            | 1,005      | 46,314     | 60,074     | 68,936     |
| 1948                  | 7,570                  | 1,146        | 2,571                           | 557                    | 196        | 12,040     | 9,533      | 3,341            | 1,199      | 47,762     | 61,835     | 73,875     |
| 1949                  | 7,485                  | 1,054        | 2,864                           | 609                    | 420        | 12,432     | 9,663      | 3,442            | 1,355      | 48,682     | 63,142     | 75,574     |
| 1950                  | 9,365                  | 1,214        | 3,239                           | 634                    | 261        | 14,713     | 12,015     | 3,497            | 1,694      | 53,071     | 70,277     | 84,990     |
| 1951                  | 11,551                 | 1,268        | 3,759                           | 709                    | 312        | 17,599     | 13,970     | 3,763            | 1,589      | 57,376     | 76,698     | 94,297     |
| 1952                  | 10,097                 | 1,124        | 3,566                           | 1,026                  | 211        | 16,024     | 14,013     | 5,035            | 1,958      | 61,225     | 82,231     | 98,255     |
| 1953                  | 9,618                  | 1,177        | 3,678                           | 1,445                  | 111        | 16,029     | 14,533     | 5,137            | 2,041      | 60,947     | 82,658     | 98,687     |
| 1954                  | 9,702                  | 1,564        | 3,859                           | 1,504                  | 150        | 16,779     | 15,405     | 5,065            | 2,338      | 65,140     | 87,948     | 104,727    |
| 1955                  | 10,945                 | 1,712        | 3,963                           | 1,284                  | 194        | 18,098     | 16,431     | 4,485            | 2,350      | 61,341     | 84,607     | 102,705    |
| 1956                  | 11,170                 | 1,517        | 4,302                           | 1,307                  | 200        | 18,496     | 15,811     | 4,813            | 2,429      | 70,001     | 93,054     | 111,550    |

<sup>1</sup> High-protein feeds grouped with other byproduct feeds, 1909-25.

TABLE 72.—*Feed consumed by sheep and goats: Total quantity expressed in feed units, by principal kinds of feed, 1909-56*

| Year beginning Oct. 1 | Sheep        |              |                                 |                        |            |            |                  |            |            |            | Goats      |          |
|-----------------------|--------------|--------------|---------------------------------|------------------------|------------|------------|------------------|------------|------------|------------|------------|----------|
|                       | Concentrates |              |                                 |                        |            | Roughage   |                  |            |            |            |            |          |
|                       | Corn         | Other grains | High-protein feeds <sup>1</sup> | Other by-product feeds | Total      | Hay        | Stover and straw | Silage     | Pasture    | Total      |            | All feed |
| 1,000 tons            | 1,000 tons   | 1,000 tons   | 1,000 tons                      | 1,000 tons             | 1,000 tons | 1,000 tons | 1,000 tons       | 1,000 tons | 1,000 tons | 1,000 tons | 1,000 tons |          |
| 1909                  | 605          | 300          | 128                             | 1,033                  | 1,440      | 712        | 19               | 15,885     | 18,056     | 19,089     | 1,062      |          |
| 1910                  | 570          | 324          | 135                             | 1,029                  | 1,440      | 625        | 23               | 14,418     | 16,706     | 17,735     | 958        |          |
| 1911                  | 450          | 310          | 135                             | 895                    | 1,060      | 863        | 26               | 16,333     | 18,282     | 19,177     | 1,145      |          |
| 1912                  | 510          | 408          | 135                             | 1,053                  | 1,320      | 615        | 32               | 14,257     | 16,224     | 17,277     | 1,072      |          |
| 1913                  | 270          | 341          | 135                             | 746                    | 1,400      | 487        | 42               | 14,159     | 16,088     | 16,834     | 1,103      |          |
| 1914                  | 200          | 334          | 150                             | 684                    | 1,320      | 632        | 53               | 14,694     | 16,705     | 17,389     | 1,218      |          |
| 1915                  | 194          | 458          | 150                             | 802                    | 1,440      | 575        | 65               | 13,271     | 15,351     | 16,153     | 1,114      |          |
| 1916                  | 115          | 354          | 150                             | 619                    | 1,500      | 437        | 78               | 12,055     | 14,070     | 14,689     | 1,041      |          |
| 1917                  | 210          | 432          | 150                             | 792                    | 1,348      | 500        | 86               | 11,927     | 13,861     | 14,653     | 1,010      |          |
| 1918                  | 100          | 474          | 150                             | 724                    | 1,340      | 608        | 92               | 14,409     | 16,449     | 17,173     | 1,156      |          |
| 1919                  | 220          | 392          | 150                             | 762                    | 1,560      | 510        | 105              | 13,777     | 15,952     | 16,714     | 1,135      |          |
| 1920                  | 300          | 448          | 150                             | 898                    | 1,348      | 575        | 109              | 12,972     | 15,004     | 15,902     | 1,179      |          |
| 1921                  | 215          | 388          | 150                             | 753                    | 1,476      | 432        | 105              | 11,904     | 13,917     | 14,670     | 1,032      |          |
| 1922                  | 160          | 408          | 150                             | 718                    | 1,472      | 388        | 109              | 12,322     | 14,291     | 15,009     | 1,096      |          |
| 1923                  | 150          | 458          | 150                             | 758                    | 1,280      | 420        | 113              | 11,858     | 13,671     | 14,429     | 1,155      |          |
| 1924                  | 130          | 473          | 150                             | 753                    | 1,540      | 410        | 113              | 11,829     | 13,892     | 14,645     | 1,118      |          |
| 1925                  | 190          | 560          | 180                             | 930                    | 1,492      | 462        | 120              | 13,014     | 15,088     | 16,018     | 1,430      |          |
| 1926                  | 220          | 520          | 178                             | 47                     | 965        | 457        | 138              | 14,464     | 16,674     | 17,639     | 1,581      |          |
| 1927                  | 290          | 529          | 189                             | 38                     | 1,046      | 1,912      | 450              | 146        | 14,591     | 17,099     | 18,145     | 1,700    |
| 1928                  | 205          | 639          | 210                             | 49                     | 1,103      | 2,082      | 460              | 162        | 15,448     | 18,152     | 19,255     | 1,755    |
| 1929                  | 385          | 557          | 210                             | 49                     | 1,201      | 1,870      | 485              | 170        | 15,026     | 17,551     | 18,752     | 1,754    |
| 1930                  | 140          | 593          | 189                             | 49                     | 971        | 1,594      | 550              | 170        | 15,347     | 17,661     | 18,632     | 1,824    |
| 1931                  | 795          | 320          | 126                             | 45                     | 1,286      | 1,572      | 605              | 178        | 16,376     | 18,331     | 20,017     | 1,811    |
| 1932                  | 825          | 329          | 126                             | 53                     | 1,333      | 1,700      | 650              | 170        | 14,802     | 17,322     | 18,655     | 1,620    |
| 1933                  | 685          | 152          | 147                             | 53                     | 1,037      | 1,402      | 620              | 170        | 12,274     | 14,466     | 15,503     | 1,275    |
| 1934                  | 170          | 137          | 189                             | 53                     | 549        | 1,062      | 687              | 178        | 15,418     | 17,345     | 17,894     | 1,506    |
| 1935                  | 680          | 415          | 189                             | 53                     | 1,337      | 1,700      | 633              | 211        | 13,316     | 15,860     | 17,197     | 1,373    |
| 1936                  | 90           | 191          | 210                             | 53                     | 544        | 1,530      | 675              | 186        | 14,502     | 16,893     | 17,437     | 1,528    |
| 1937                  | 470          | 496          | 210                             | 53                     | 1,229      | 1,500      | 717              | 220        | 16,034     | 18,471     | 19,700     | 1,493    |
| 1938                  | 705          | 286          | 210                             | 53                     | 1,254      | 2,189      | 530              | 212        | 14,430     | 17,361     | 18,615     | 1,385    |
| 1939                  | 630          | 266          | 210                             | 68                     | 1,174      | 2,252      | 530              | 178        | 15,524     | 18,484     | 19,658     | 1,558    |
| 1940                  | 601          | 287          | 220                             | 78                     | 1,186      | 2,338      | 570              | 219        | 17,375     | 20,502     | 21,688     | 1,782    |
| 1941                  | 675          | 306          | 231                             | 72                     | 1,284      | 2,665      | 600              | 221        | 18,456     | 21,942     | 23,226     | 1,730    |
| 1942                  | 760          | 259          | 231                             | 64                     | 1,314      | 2,656      | 550              | 209        | 16,934     | 20,349     | 21,663     | 1,601    |
| 1943                  | 695          | 229          | 210                             | 56                     | 1,190      | 2,380      | 452              | 171        | 15,592     | 18,595     | 19,785     | 1,535    |
| 1944                  | 740          | 186          | 189                             | 56                     | 1,171      | 2,078      | 515              | 146        | 15,132     | 17,871     | 19,042     | 1,699    |
| 1945                  | 665          | 205          | 178                             | 52                     | 1,100      | 1,955      | 368              | 138        | 13,007     | 15,468     | 16,568     | 1,472    |
| 1946                  | 595          | 159          | 157                             | 52                     | 963        | 1,776      | 348              | 143        | 11,741     | 14,008     | 14,971     | 1,400    |
| 1947                  | 525          | 155          | 147                             | 56                     | 883        | 1,602      | 238              | 138        | 10,542     | 12,520     | 13,403     | 1,183    |
| 1948                  | 417          | 180          | 136                             | 51                     | 784        | 1,339      | 290              | 143        | 9,783      | 11,555     | 12,339     | 984      |
| 1949                  | 413          | 157          | 136                             | 48                     | 754        | 1,187      | 305              | 96         | 9,339      | 10,927     | 11,681     | 964      |
| 1950                  | 395          | 159          | 137                             | 49                     | 740        | 1,300      | 285              | 97         | 9,405      | 11,087     | 11,827     | 924      |
| 1951                  | 490          | 154          | 147                             | 55                     | 846        | 1,487      | 243              | 97         | 9,333      | 11,160     | 12,006     | 812      |
| 1952                  | 520          | 137          | 147                             | 61                     | 865        | 1,360      | 271              | 97         | 9,019      | 10,747     | 11,612     | 804      |
| 1953                  | 480          | 158          | 158                             | 70                     | 866        | 1,317      | 198              | 97         | 8,579      | 10,191     | 11,057     | 872      |
| 1954                  | 450          | 192          | 157                             | 79                     | 878        | 1,360      | 271              | 97         | 8,996      | 10,724     | 11,602     | 1,035    |
| 1955                  | 415          | 209          | 158                             | 75                     | 857        | 1,572      | 251              | 97         | 8,271      | 10,191     | 11,048     | 1,019    |
| 1956                  | 425          | 193          | 147                             | 75                     | 840        | 1,572      | 227              | 97         | 9,562      | 11,458     | 12,298     | 1,245    |

<sup>1</sup> High-protein feeds grouped with other byproduct feeds, 1909-25.



TABLE 73.—*Feed consumed by horses and mules: Total quantity expressed in feed units, by principal kinds of feed, 1909–56*

| Year beginning<br>Oct. 1 | Concentrates  |                 |   |                                  |               | Roughage      |                        |               |               | All<br>feed   |
|--------------------------|---------------|-----------------|---|----------------------------------|---------------|---------------|------------------------|---------------|---------------|---------------|
|                          | Corn          | Other<br>grains | High-<br>pro-<br>tein<br>feeds <sup>1</sup> | Other<br>byprod-<br>uct<br>feeds | Total         | Hay           | Stover<br>and<br>straw | Pas-<br>ture  | Total         |               |
|                          | 1,000<br>tons | 1,000<br>tons   | 1,000<br>tons                               | 1,000<br>tons                    | 1,000<br>tons | 1,000<br>tons | 1,000<br>tons          | 1,000<br>tons | 1,000<br>tons | 1,000<br>tons |
| 1909                     | 19,750        | 6,034           | -----                                       | 1,010                            | 26,794        | 13,000        | 6,824                  | 16,460        | 36,284        | 63,078        |
| 1910                     | 21,240        | 6,770           | -----                                       | 1,220                            | 29,230        | 11,080        | 8,873                  | 15,260        | 35,213        | 64,443        |
| 1911                     | 17,760        | 5,874           | -----                                       | 1,320                            | 24,954        | 10,032        | 10,324                 | 18,585        | 38,941        | 63,895        |
| 1912                     | 22,520        | 7,498           | -----                                       | 1,070                            | 31,088        | 13,152        | 7,770                  | 17,705        | 38,627        | 69,715        |
| 1913                     | 15,500        | 7,097           | -----                                       | 1,350                            | 23,947        | 12,160        | 9,013                  | 18,562        | 39,735        | 63,682        |
| 1914                     | 15,720        | 6,218           | -----                                       | 1,360                            | 23,298        | 12,400        | 8,785                  | 20,717        | 41,902        | 65,200        |
| 1915                     | 20,600        | 7,907           | -----                                       | 1,200                            | 29,707        | 13,872        | 4,480                  | 18,948        | 37,300        | 67,007        |
| 1916                     | 15,430        | 6,954           | -----                                       | 1,350                            | 23,734        | 14,684        | 7,070                  | 17,739        | 39,493        | 63,227        |
| 1917                     | 19,750        | 7,633           | -----                                       | 1,350                            | 28,733        | 12,920        | 8,751                  | 17,164        | 38,835        | 67,568        |
| 1918                     | 16,840        | 8,216           | -----                                       | 1,250                            | 26,306        | 12,148        | 9,344                  | 19,360        | 40,852        | 67,158        |
| 1919                     | 18,410        | 6,771           | -----                                       | 1,200                            | 26,281        | 13,360        | 8,050                  | 18,347        | 39,757        | 66,038        |
| 1920                     | 18,670        | 7,519           | -----                                       | 1,150                            | 27,339        | 12,800        | 8,190                  | 17,288        | 38,278        | 65,617        |
| 1921                     | 17,840        | 6,487           | -----                                       | 1,150                            | 25,477        | 13,640        | 7,176                  | 16,480        | 37,296        | 62,773        |
| 1922                     | 15,575        | 6,641           | -----                                       | 1,150                            | 23,366        | 13,804        | 6,650                  | 16,635        | 37,089        | 60,455        |
| 1923                     | 18,120        | 6,956           | -----                                       | 1,150                            | 26,226        | 13,288        | 6,615                  | 15,326        | 35,229        | 61,455        |
| 1924                     | 13,300        | 7,439           | -----                                       | 1,130                            | 21,869        | 13,112        | 6,055                  | 14,247        | 33,414        | 55,283        |
| 1925                     | 14,750        | 7,041           | -----                                       | 1,030                            | 22,821        | 12,140        | 6,650                  | 14,581        | 33,371        | 56,192        |
| 1926                     | 13,428        | 6,284           | -----                                       | 865                              | 20,577        | 11,200        | 7,375                  | 14,861        | 33,436        | 54,013        |
| 1927                     | 14,115        | 6,299           | 38  | 635                              | 21,087        | 13,158        | 4,255                  | 13,544        | 30,957        | 52,044        |
| 1928                     | 13,133        | 7,044           | 25  | 478                              | 20,680        | 12,520        | 4,305                  | 12,937        | 29,762        | 50,442        |
| 1929                     | 13,489        | 6,243           | 25  | 414                              | 20,171        | 11,360        | 4,795                  | 14,468        | 30,623        | 50,794        |
| 1930                     | 10,863        | 6,321           | 25  | 324                              | 17,533        | 9,600         | 5,790                  | 13,822        | 29,212        | 46,745        |
| 1931                     | 11,085        | 4,784           | 25  | 124                              | 16,018        | 9,059         | 5,795                  | 14,043        | 28,897        | 44,915        |
| 1932                     | 12,325        | 4,463           | 19  | 132                              | 16,939        | 9,450         | 5,160                  | 12,550        | 27,160        | 44,099        |
| 1933                     | 10,445        | 2,020           | 19  | 132                              | 12,616        | 9,021         | 5,215                  | 10,121        | 24,357        | 36,973        |
| 1934                     | 9,150         | 1,941           | 19  | 128                              | 11,238        | 7,530         | 6,025                  | 12,905        | 26,460        | 36,978        |
| 1935                     | 12,215        | 4,112           | 19  | 128                              | 16,474        | 9,240         | 4,170                  | 10,998        | 24,408        | 40,882        |
| 1936                     | 6,255         | 2,923           | 25  | 137                              | 9,340         | 9,060         | 4,023                  | 11,738        | 24,821        | 34,161        |
| 1937                     | 9,190         | 3,691           | 25  | 128                              | 13,034        | 8,443         | 4,090                  | 12,689        | 25,222        | 38,256        |
| 1938                     | 7,025         | 3,624           | 25  | 136                              | 10,810        | 9,526         | 3,035                  | 10,998        | 23,559        | 34,389        |
| 1939                     | 6,950         | 2,906           | 25  | 163                              | 10,044        | 9,302         | 2,790                  | 11,467        | 23,559        | 33,603        |
| 1940                     | 6,212         | 4,000           | 38  | 197                              | 10,447        | 9,266         | 2,530                  | 12,084        | 23,880        | 34,327        |
| 1941                     | 6,425         | 3,538           | 38  | 173                              | 10,174        | 9,540         | 2,144                  | 11,911        | 23,595        | 33,769        |
| 1942                     | 6,630         | 3,689           | 38  | 132                              | 10,489        | 9,065         | 2,217                  | 10,869        | 22,151        | 32,640        |
| 1943                     | 6,555         | 3,323           | 38  | 132                              | 10,048        | 8,260         | 2,387                  | 10,267        | 20,914        | 30,962        |
| 1944                     | 6,020         | 3,025           | 38  | 132                              | 9,215         | 7,320         | 2,728                  | 10,300        | 20,348        | 29,563        |
| 1945                     | 4,870         | 3,525           | 25  | 142                              | 8,562         | 6,830         | 2,565                  | 11,912        | 21,307        | 29,869        |
| 1946                     | 5,270         | 2,219           | 19  | 172                              | 7,680         | 5,792         | 2,650                  | 11,075        | 19,517        | 27,197        |
| 1947                     | 4,425         | 1,705           | 12  | 210                              | 6,352         | 5,071         | 2,695                  | 9,948         | 17,714        | 24,066        |
| 1948                     | 3,977         | 1,526           | 12  | 172                              | 5,687         | 4,116         | 2,919                  | 9,380         | 16,415        | 22,102        |
| 1949                     | 3,661         | 1,263           | 31  | 224                              | 5,179         | 3,284         | 3,070                  | 8,507         | 14,861        | 20,040        |
| 1950                     | 2,890         | 1,372           | 30  | 227                              | 4,519         | 3,092         | 2,720                  | 7,541         | 13,353        | 17,872        |
| 1951                     | 2,460         | 1,182           | 26  | 209                              | 3,877         | 2,920         | 1,961                  | 6,266         | 11,147        | 15,024        |
| 1952                     | 2,330         | 965             | 9   | 187                              | 3,491         | 2,384         | 1,868                  | 5,333         | 9,585         | 13,076        |
| 1953                     | 1,885         | 938             | -----                                       | 175                              | 2,998         | 2,096         | 1,624                  | 4,576         | 8,296         | 11,294        |
| 1954                     | 1,525         | 889             | -----                                       | 166                              | 2,580         | 1,892         | 1,491                  | 4,286         | 7,669         | 10,249        |
| 1955                     | 1,395         | 889             | -----                                       | 158                              | 2,442         | 1,896         | 1,244                  | 3,628         | 6,768         | 9,210         |
| 1956                     | 1,355         | 709             | -----                                       | 145                              | 2,209         | 1,692         | 932                    | 3,852         | 6,476         | 8,685         |

<sup>1</sup> High-protein feeds grouped with other byproduct feeds, 1909-26.



TABLE 74.—*Feed consumed by hogs: Total quantity expressed in feed units, by principal kinds of feed, 1909-56*

| Year beginning<br>Oct. 1 | Concentrates, seeds and milk |                   |  |                          |                      |                   | Pasture           | All feed          |
|--------------------------|------------------------------|-------------------|--|--------------------------|----------------------|-------------------|-------------------|-------------------|
|                          | Corn                         | Other<br>grain    | High-<br>protein<br>feeds <sup>1</sup> | Other<br>by-<br>products | Seeds<br>and<br>milk | Total             |                   |                   |
|                          | <i>1,000 tons</i>            | <i>1,000 tons</i> | <i>1,000 tons</i>                      | <i>1,000 tons</i>        | <i>1,000 tons</i>    | <i>1,000 tons</i> | <i>1,000 tons</i> | <i>1,000 tons</i> |
| 1909                     | 26,500                       | 3,187             | -----                                  | 3,482                    | 2,300                | 35,469            | 1,151             | 36,620            |
| 1910                     | 30,856                       | 3,272             | -----                                  | 3,658                    | 2,300                | 40,086            | 1,172             | 41,258            |
| 1911                     | 28,806                       | 3,366             | -----                                  | 4,095                    | 2,300                | 38,567            | 1,390             | 39,957            |
| 1912                     | 31,250                       | 4,404             | -----                                  | 4,550                    | 2,300                | 42,504            | 1,335             | 43,839            |
| 1913                     | 28,369                       | 3,663             | -----                                  | 4,375                    | 2,300                | 38,707            | 1,408             | 40,115            |
| 1914                     | 31,294                       | 3,706             | -----                                  | 4,550                    | 2,300                | 41,850            | 1,608             | 43,458            |
| 1915                     | 30,640                       | 4,837             | -----                                  | 4,900                    | 2,300                | 42,677            | 1,575             | 44,252            |
| 1916                     | 27,307                       | 3,616             | -----                                  | 4,550                    | 2,300                | 37,773            | 1,356             | 39,129            |
| 1917                     | 30,913                       | 4,590             | -----                                  | 4,550                    | 2,300                | 42,353            | 1,381             | 43,734            |
| 1918                     | 28,752                       | 5,006             | -----                                  | 4,200                    | 2,300                | 40,258            | 1,605             | 41,863            |
| 1919                     | 29,008                       | 4,182             | -----                                  | 3,850                    | 2,300                | 39,340            | 1,474             | 40,814            |
| 1920                     | 31,790                       | 4,684             | -----                                  | 3,500                    | 2,300                | 42,274            | 1,450             | 43,724            |
| 1921                     | 34,050                       | 4,106             | -----                                  | 2,800                    | 2,300                | 43,556            | 1,531             | 44,787            |
| 1922                     | 33,860                       | 4,582             | -----                                  | 4,025                    | 2,300                | 44,767            | 1,812             | 46,579            |
| 1923                     | 32,373                       | 5,168             | -----                                  | 2,800                    | 2,300                | 42,641            | 1,675             | 44,316            |
| 1924                     | 26,921                       | 4,912             | -----                                  | 3,185                    | 2,300                | 37,318            | 1,443             | 38,761            |
| 1925                     | 29,374                       | 4,598             | -----                                  | 3,500                    | 2,300                | 39,772            | 1,489             | 41,261            |
| 1926                     | 29,531                       | 4,910             | 2,312                                  | 1,061                    | 2,998                | 40,812            | 1,700             | 42,512            |
| 1927                     | 30,929                       | 5,522             | 2,166                                  | 1,128                    | 2,691                | 42,436            | 1,670             | 44,106            |
| 1928                     | 28,760                       | 7,055             | 2,227                                  | 999                      | 2,746                | 41,787            | 1,603             | 43,390            |
| 1929                     | 28,753                       | 5,400             | 2,073                                  | 980                      | 2,805                | 40,011            | 1,421             | 41,432            |
| 1930                     | 24,833                       | 7,157             | 2,057                                  | 960                      | 2,919                | 37,926            | 1,420             | 39,346            |
| 1931                     | 29,777                       | 5,702             | 1,687                                  | 374                      | 3,115                | 40,655            | 1,599             | 42,254            |
| 1932                     | 33,720                       | 5,359             | 1,697                                  | 414                      | 3,026                | 44,216            | 1,507             | 45,723            |
| 1933                     | 29,807                       | 3,589             | 1,526                                  | 363                      | 3,054                | 38,339            | 1,148             | 39,487            |
| 1934                     | 16,965                       | 4,170             | 1,870                                  | 303                      | 2,739                | 26,047            | 1,025             | 27,072            |
| 1935                     | 20,984                       | 5,285             | 1,979                                  | 509                      | 2,775                | 31,532            | 1,011             | 32,543            |
| 1936                     | 20,201                       | 4,720             | 2,356                                  | 447                      | 2,684                | 30,408            | 1,177             | 31,585            |
| 1937                     | 26,121                       | 6,043             | 2,455                                  | 468                      | 2,964                | 38,051            | 1,823             | 39,874            |
| 1938                     | 27,176                       | 5,808             | 2,426                                  | 570                      | 2,745                | 38,725            | 1,974             | 40,699            |
| 1939                     | 29,981                       | 5,928             | 2,936                                  | 622                      | 2,688                | 42,155            | 2,344             | 44,499            |
| 1940                     | 27,729                       | 7,366             | 3,337                                  | 486                      | 2,889                | 41,807            | 2,368             | 44,175            |
| 1941                     | 32,063                       | 8,536             | 3,571                                  | 493                      | 2,617                | 47,280            | 2,737             | 50,017            |
| 1942                     | 39,732                       | 14,782            | 5,375                                  | 587                      | 2,812                | 63,288            | 3,118             | 66,406            |
| 1943                     | 37,481                       | 15,117            | 4,946                                  | 568                      | 2,662                | 60,774            | 3,194             | 63,968            |
| 1944                     | 32,665                       | 9,551             | 3,890                                  | 494                      | 2,305                | 48,905            | 2,550             | 51,455            |
| 1945                     | 35,705                       | 11,565            | 3,687                                  | 517                      | 2,032                | 53,506            | 2,455             | 55,961            |
| 1946                     | 33,326                       | 7,063             | 4,476                                  | 775                      | 1,748                | 47,388            | 2,385             | 49,773            |
| 1947                     | 29,969                       | 6,413             | 4,401                                  | 601                      | 1,858                | 43,242            | 2,332             | 45,574            |
| 1948                     | 30,920                       | 7,790             | 4,829                                  | 529                      | 1,804                | 45,872            | 2,534             | 48,406            |
| 1949                     | 34,865                       | 6,950             | 5,223                                  | 515                      | 1,662                | 49,215            | 2,704             | 51,919            |
| 1950                     | 36,165                       | 7,792             | 6,166                                  | 520                      | 1,580                | 52,223            | 2,800             | 55,023            |
| 1951                     | 35,968                       | 8,012             | 6,127                                  | 537                      | 1,605                | 52,249            | 2,621             | 54,870            |
| 1952                     | 27,251                       | 7,278             | 5,554                                  | 497                      | 1,558                | 42,138            | 2,191             | 44,329            |
| 1953                     | 29,400                       | 7,463             | 5,919                                  | 527                      | 1,468                | 44,777            | 2,046             | 46,823            |
| 1954                     | 29,546                       | 8,545             | 5,563                                  | 530                      | 1,370                | 45,554            | 2,361             | 47,915            |
| 1955                     | 31,899                       | 8,870             | 5,759                                  | 535                      | 1,290                | 47,853            | 2,260             | 50,113            |
| 1956                     | 31,346                       | 8,494             | 6,128                                  | 527                      | 1,282                | 47,777            | 2,562             | 50,339            |

<sup>1</sup> High-protein feeds grouped with other byproducts, 1909-25.

TABLE 75.—*Feed consumed by poultry: Total quantity expressed in feed units, by principal kinds of feed, 1909-56*

| Year beginning<br>Oct. 1 | Concentrates and milk |                   |                                       |                          |                   |                   | Pasture           | All feed          |
|--------------------------|-----------------------|-------------------|---------------------------------------|--------------------------|-------------------|-------------------|-------------------|-------------------|
|                          | Corn                  | Other<br>grains   | High-<br>protein<br>feed <sup>1</sup> | Other<br>by-<br>products | Skim<br>milk      | Total             |                   |                   |
|                          | <i>1,000 tons</i>     | <i>1,000 tons</i> | <i>1,000 tons</i>                     | <i>1,000 tons</i>        | <i>1,000 tons</i> | <i>1,000 tons</i> | <i>1,000 tons</i> | <i>1,000 tons</i> |
| 1909                     | 7, 130                | 2, 259            | -----                                 | 1, 680                   | 600               | 11, 669           | 1, 076            | 12, 745           |
| 1910                     | 7, 450                | 2, 347            | -----                                 | 1, 764                   | 600               | 12, 161           | 1, 015            | 13, 176           |
| 1911                     | 6, 840                | 2, 528            | -----                                 | 1, 548                   | 600               | 11, 516           | 1, 174            | 12, 690           |
| 1912                     | 6, 210                | 3, 245            | -----                                 | 1, 476                   | 600               | 11, 531           | 1, 096            | 12, 627           |
| 1913                     | 6, 880                | 2, 801            | -----                                 | 1, 632                   | 600               | 11, 913           | 1, 137            | 13, 050           |
| 1914                     | 6, 590                | 2, 789            | -----                                 | 1, 716                   | 600               | 11, 695           | 1, 282            | 12, 977           |
| 1915                     | 6, 285                | 3, 577            | -----                                 | 1, 590                   | 600               | 12, 052           | 1, 143            | 13, 195           |
| 1916                     | 6, 665                | 2, 820            | -----                                 | 1, 680                   | 600               | 11, 765           | 1, 048            | 12, 813           |
| 1917                     | 7, 240                | 3, 285            | -----                                 | 1, 860                   | 600               | 12, 985           | 1, 041            | 14, 026           |
| 1918                     | 6, 690                | 3, 645            | -----                                 | 2, 040                   | 600               | 12, 975           | 1, 255            | 14, 230           |
| 1919                     | 6, 800                | 3, 199            | -----                                 | 2, 160                   | 600               | 12, 819           | 1, 197            | 14, 016           |
| 1920                     | 8, 175                | 3, 670            | -----                                 | 2, 160                   | 600               | 14, 605           | 1, 160            | 15, 765           |
| 1921                     | 8, 125                | 3, 325            | -----                                 | 2, 280                   | 600               | 14, 330           | 1, 209            | 15, 539           |
| 1922                     | 8, 010                | 3, 481            | -----                                 | 2, 520                   | 600               | 14, 611           | 1, 317            | 15, 928           |
| 1923                     | 8, 700                | 4, 115            | -----                                 | 3, 000                   | 600               | 16, 415           | 1, 304            | 17, 719           |
| 1924                     | 7, 150                | 4, 330            | -----                                 | 3, 240                   | 600               | 15, 320           | 1, 263            | 16, 583           |
| 1925                     | 9, 310                | 4, 361            | -----                                 | 3, 360                   | 600               | 17, 631           | 1, 353            | 18, 984           |
| 1926                     | 10, 642               | 3, 758            | 1, 038                                | 2, 036                   | 680               | 18, 154           | 1, 505            | 19, 659           |
| 1927                     | 10, 712               | 4, 081            | 1, 021                                | 1, 972                   | 620               | 18, 406           | 1, 431            | 19, 837           |
| 1928                     | 9, 885                | 4, 397            | 1, 135                                | 2, 265                   | 670               | 18, 352           | 1, 380            | 19, 732           |
| 1929                     | 9, 735                | 5, 574            | 1, 225                                | 2, 251                   | 700               | 19, 485           | 1, 042            | 20, 527           |
| 1930                     | 6, 689                | 6, 943            | 1, 090                                | 2, 080                   | 710               | 17, 512           | 980               | 18, 492           |
| 1931                     | 9, 411                | 6, 232            | 1, 177                                | 1, 863                   | 760               | 19, 443           | 1, 037            | 20, 480           |
| 1932                     | 9, 970                | 5, 704            | 1, 280                                | 2, 093                   | 760               | 19, 807           | 968               | 20, 775           |
| 1933                     | 8, 719                | 4, 270            | 1, 293                                | 2, 104                   | 720               | 17, 106           | 751               | 17, 857           |
| 1934                     | 7, 573                | 3, 714            | 1, 232                                | 2, 169                   | 690               | 15, 378           | 921               | 16, 299           |
| 1935                     | 9, 167                | 5, 543            | 1, 717                                | 2, 311                   | 680               | 19, 418           | 871               | 20, 289           |
| 1936                     | 6, 870                | 4, 128            | 1, 925                                | 2, 484                   | 630               | 16, 037           | 925               | 16, 962           |
| 1937                     | 7, 177                | 6, 461            | 2, 109                                | 2, 319                   | 680               | 18, 746           | 742               | 19, 488           |
| 1938                     | 8, 170                | 6, 435            | 2, 428                                | 2, 500                   | 680               | 20, 213           | 718               | 20, 931           |
| 1939                     | 8, 130                | 6, 636            | 2, 397                                | 2, 606                   | 670               | 20, 459           | 740               | 21, 199           |
| 1940                     | 10, 713               | 6, 117            | 3, 045                                | 2, 918                   | 710               | 23, 503           | 861               | 24, 364           |
| 1941                     | 11, 520               | 8, 636            | 3, 246                                | 2, 936                   | 674               | 27, 012           | 980               | 27, 992           |
| 1942                     | 13, 096               | 11, 308           | 3, 878                                | 3, 132                   | 650               | 32, 064           | 1, 057            | 33, 121           |
| 1943                     | 13, 283               | 10, 817           | 3, 856                                | 3, 115                   | 620               | 31, 691           | 988               | 32, 679           |
| 1944                     | 13, 570               | 10, 413           | 4, 272                                | 3, 485                   | 580               | 32, 320           | 1, 062            | 33, 382           |
| 1945                     | 12, 697               | 10, 280           | 3, 764                                | 3, 249                   | 540               | 30, 530           | 900               | 31, 430           |
| 1946                     | 12, 581               | 8, 259            | 3, 838                                | 3, 858                   | 540               | 29, 076           | 861               | 29, 937           |
| 1947                     | 9, 260                | 9, 985            | 4, 228                                | 3, 834                   | 480               | 27, 787           | 767               | 28, 554           |
| 1948                     | 12, 926               | 8, 167            | 5, 090                                | 3, 681                   | 500               | 30, 364           | 852               | 31, 216           |
| 1949                     | 15, 397               | 8, 003            | 5, 599                                | 3, 517                   | 178               | 32, 694           | 817               | 33, 511           |
| 1950                     | 12, 545               | 9, 759            | 6, 252                                | 3, 513                   | 180               | 32, 249           | 805               | 33, 054           |
| 1951                     | 12, 511               | 9, 330            | 6, 180                                | 3, 581                   | 180               | 31, 782           | 746               | 32, 528           |
| 1952                     | 13, 825               | 7, 719            | 6, 472                                | 3, 408                   | 180               | 31, 599           | 695               | 32, 294           |
| 1953                     | 14, 439               | 7, 884            | 6, 590                                | 3, 403                   | 160               | 32, 476           | 683               | 33, 159           |
| 1954                     | 11, 325               | 9, 046            | 6, 261                                | 3, 461                   | 160               | 30, 253           | 662               | 30, 915           |
| 1955                     | 12, 737               | 9, 325            | 7, 154                                | 3, 289                   | 160               | 32, 665           | 634               | 33, 299           |
| 1956                     | 13, 505               | 8, 655            | 7, 432                                | 3, 307                   | 160               | 33, 059           | 712               | 33, 771           |

<sup>1</sup> High-protein feeds grouped with other byproducts, 1909-25.

TABLE 76.—Feed units of all feed, including pasture, consumed per head or per unit of production, by different classes of livestock, 1909-56

| Year beginning<br>Oct. 1 | Dairy cattle |                                 |  | Beef cattle  |   |                                       |   | Poultry                              |                       |                    |                    |                                |                | Hogs<br>per<br>100<br>pounds<br>pro-<br>duced | Feed<br>units | Horses<br>and<br>mules<br>2 years<br>old and<br>over,<br>per<br>head |               |                                       |
|--------------------------|--------------|---------------------------------|--|--|---|---------------------------------------|---|--------------------------------------|-----------------------|--------------------|--------------------|--------------------------------|----------------|---|---------------|--|---------------|---------------------------------------|
|                          | Milk cows    |                                 | Other<br>dairy<br>cattle,<br>per<br>head | Grain-<br>fattened<br>cattle,<br>per<br>head<br>Jan. 1 | Other<br>beef<br>cattle,<br>per<br>head | All<br>beef<br>cattle,<br>per<br>head | Cattle<br>and<br>calves,<br>per<br>100<br>pounds<br>pro-<br>duced | Sheep<br>and<br>lambs<br>per<br>head | Hens and<br>pullets   |                    | Chickens<br>raised |                                | Turkeys raised |   |               |  | Feed<br>units |                                       |
|                          | Per<br>head  | Per<br>100<br>pounds<br>of milk |  |  |   |                                       |   |                                      | Per<br>head<br>Jan. 1 | Per<br>100<br>eggs | Per<br>head        | Per<br>100<br>pounds<br>raised | Per<br>head    |   |               |  |               | Per<br>100<br>pounds<br>pro-<br>duced |
| 1909                     | 4,108        | 3,263                           | 3,487                                    | 3,731  | 3,487                                   | 3,487                                 | 760   | 48                                   | 17                    | 434                | 18                 | 56                             | 662            | 5,590   |               |  |               |                                       |
| 1910                     | 4,043        | 3,156                           | 3,269                                    | 3,731  | 3,269                                   | 3,269                                 | 702   | 48                                   | 18                    | 450                | 17                 | 56                             | 665            | 5,626   |               |  |               |                                       |
| 1911                     | 4,133        | 3,390                           | 3,687                                    | 3,499  | 3,687                                   | 3,687                                 | 801   | 48                                   | 17                    | 432                | 17                 | 56                             | 660            | 5,394   |               |  |               |                                       |
| 1912                     | 4,267        | 3,402                           | 3,604                                    | 3,405  | 3,604                                   | 3,604                                 | 774   | 47                                   | 17                    | 437                | 17                 | 55                             | 719            | 5,889   |               |  |               |                                       |
| 1913                     | 4,077        | 3,283                           | 3,531                                    | 3,624  | 3,531                                   | 3,531                                 | 781   | 48                                   | 17                    | 449                | 17                 | 56                             | 642            | 5,186   |               |  |               |                                       |
| 1914                     | 4,265        | 3,438                           | 3,873                                    | 3,731  | 3,873                                   | 3,873                                 | 858   | 49                                   | 17                    | 423                | 17                 | 56                             | 639            | 5,215   |               |  |               |                                       |
| 1915                     | 4,215        | 3,425                           | 3,731                                    | 3,708  | 3,731                                   | 3,731                                 | 807   | 50                                   | 18                    | 458                | 18                 | 57                             | 646            | 5,397   |               |  |               |                                       |
| 1916                     | 4,184        | 3,247                           | 3,499                                    | 3,499  | 3,499                                   | 3,499                                 | 755   | 51                                   | 17                    | 424                | 17                 | 59                             | 597            | 5,041   |               |  |               |                                       |
| 1917                     | 4,344        | 3,255                           | 3,405                                    | 3,405  | 3,405                                   | 3,405                                 | 739   | 53                                   | 19                    | 463                | 19                 | 57                             | 612            | 5,384   |               |  |               |                                       |
| 1918                     | 4,436        | 3,414                           | 3,767                                    | 3,624  | 3,767                                   | 3,767                                 | 820   | 52                                   | 18                    | 443                | 18                 | 57                             | 590            | 5,324   |               |  |               |                                       |
| 1919                     | 4,550        | 3,395                           | 3,741                                    | 3,624  | 3,741                                   | 3,741                                 | 820   | 53                                   | 18                    | 444                | 18                 | 56                             | 600            | 5,364   |               |  |               |                                       |
| 1920                     | 4,708        | 3,444                           | 3,708                                    | 3,708  | 3,708                                   | 3,708                                 | 806   | 57                                   | 21                    | 526                | 21                 | 62                             | 625            | 5,418   |               |  |               |                                       |
| 1921                     | 4,584        | 3,453                           | 3,655                                    | 3,655  | 3,655                                   | 3,655                                 | 795   | 55                                   | 18                    | 457                | 18                 | 60                             | 563            | 5,271   |               |  |               |                                       |
| 1922                     | 4,465        | 3,312                           | 3,748                                    | 3,748  | 3,748                                   | 3,748                                 | 816   | 53                                   | 18                    | 456                | 18                 | 57                             | 551            | 5,174   |               |  |               |                                       |
| 1923                     | 4,652        | 3,378                           | 3,624                                    | 3,624  | 3,624                                   | 3,624                                 | 777   | 53                                   | 19                    | 503                | 19                 | 60                             | 561            | 5,423   |               |  |               |                                       |
| 1924                     | 4,349        | 3,172                           | 3,496                                    | 3,496  | 3,496                                   | 3,496                                 | 760   | 54                                   | 18                    | 470                | 18                 | 60                             | 531            | 5,013   |               |  |               |                                       |
| 1925                     | 4,440        | 3,313                           | 3,779                                    | 3,779  | 3,779                                   | 3,779                                 | 794   | 59                                   | 20                    | 537                | 20                 | 63                             | 565            | 5,228   |               |  |               |                                       |
| 1926                     | 4,419        | 3,371                           | 3,905                                    | 3,905  | 3,905                                   | 3,905                                 | 832   | 59                                   | 20                    | 527                | 20                 | 63                             | 552            | 5,204   |               |  |               |                                       |
| 1927                     | 4,534        | 3,420                           | 3,787                                    | 3,787  | 3,787                                   | 3,787                                 | 802   | 59                                   | 21                    | 543                | 21                 | 66                             | 555            | 5,205   |               |  |               |                                       |
| 1928                     | 4,542        | 3,257                           | 3,736                                    | 3,736  | 3,736                                   | 3,736                                 | 796   | 59                                   | 21                    | 541                | 21                 | 63                             | 542            | 5,293   |               |  |               |                                       |
| 1929                     | 4,103        | 2,821                           | 3,119                                    | 3,119  | 3,119                                   | 3,119                                 | 730   | 56                                   | 20                    | 541                | 20                 | 61                             | 542            | 5,453   |               |  |               |                                       |
| 1930                     | 4,080        | 2,788                           | 3,059                                    | 3,059  | 3,059                                   | 3,059                                 | 700   | 54                                   | 19                    | 499                | 19                 | 57                             | 504            | 5,188   |               |  |               |                                       |
| 1931                     | 4,229        | 2,931                           | 3,361                                    | 3,361  | 3,361                                   | 3,361                                 | 743   | 60                                   | 21                    | 542                | 21                 | 62                             | 512            | 5,151   |               |  |               |                                       |
| 1932                     | 4,035        | 2,903                           | 3,105                                    | 3,105  | 3,105                                   | 3,105                                 | 703   | 60                                   | 21                    | 554                | 21                 | 66                             | 544            | 5,200   |               |  |               |                                       |
| 1933                     | 3,680        | 2,410                           | 2,609                                    | 2,609  | 2,609                                   | 2,609                                 | 580   | 53                                   | 19                    | 504                | 19                 | 60                             | 536            | 4,451   |               |  |               |                                       |
| 1934                     | 4,149        | 2,926                           | 3,091                                    | 3,091  | 3,091                                   | 3,091                                 | 691   | 54                                   | 18                    | 469                | 18                 | 59                             | 511            | 4,633   |               |  |               |                                       |
| 1935                     | 3,900        | 2,762                           | 2,842                                    | 2,842  | 2,842                                   | 2,842                                 | 673   | 59                                   | 22                    | 553                | 22                 | 62                             | 542            | 5,227   |               |  |               |                                       |
| 1936                     | 4,333        | 2,858                           | 3,204                                    | 3,204  | 3,204                                   | 3,204                                 | 686   | 51                                   | 19                    | 463                | 19                 | 52                             | 494            | 4,477   |               |  |               |                                       |
| 1937                     | 4,564        | 3,247                           | 3,354                                    | 3,354  | 3,354                                   | 3,354                                 | 722   | 60                                   | 22                    | 542                | 22                 | 59                             | 528            | 5,211   |               |  |               |                                       |
| 1938                     | 4,498        | 3,007                           | 3,249                                    | 3,249  | 3,249                                   | 3,249                                 | 718   | 57                                   | 20                    | 514                | 20                 | 54                             | 504            | 4,822   |               |  |               |                                       |
| 1939                     | 4,643        | 3,167                           | 3,309                                    | 3,309  | 3,309                                   | 3,309                                 | 755   | 59                                   | 21                    | 522                | 21                 | 59                             | 506            | 4,796   |               |  |               |                                       |

|      |       |     |       |       |       |       |       |     |    |    |    |     |      |     |     |     |     |       |
|------|-------|-----|-------|-------|-------|-------|-------|-----|----|----|----|-----|------|-----|-----|-----|-----|-------|
| 1940 | 4,685 | 105 | 3,254 | 4,408 | 3,483 | 3,597 | 1,010 | 804 | 66 | 61 | 23 | 561 | 14.3 | 489 | 114 | 723 | 523 | 5,030 |
| 1941 | 5,046 | 112 | 3,512 | 4,613 | 3,473 | 3,607 | 1,017 | 826 | 69 | 62 | 23 | 553 | 13.8 | 466 | 116 | 723 | 516 | 5,091 |
| 1942 | 4,874 | 115 | 3,443 | 4,568 | 3,388 | 3,476 | 1,015 | 786 | 65 | 65 | 24 | 563 | 13.1 | 482 | 107 | 666 | 551 | 5,058 |
| 1943 | 4,923 | 117 | 3,347 | 4,923 | 3,389 | 3,480 | 1,021 | 779 | 71 | 64 | 25 | 581 | 13.6 | 467 | 111 | 668 | 542 | 5,038 |
| 1944 | 5,192 | 120 | 3,542 | 4,782 | 3,456 | 3,593 | 1,014 | 819 | 73 | 62 | 25 | 582 | 13.0 | 448 | 112 | 650 | 547 | 5,070 |
| 1945 | 5,064 | 114 | 3,446 | 5,579 | 3,336 | 3,558 | 994   | 782 | 76 | 66 | 25 | 568 | 13.9 | 459 | 113 | 634 | 562 | 5,492 |
| 1946 | 5,203 | 114 | 3,528 | 5,398 | 3,348 | 3,560 | 969   | 798 | 78 | 60 | 26 | 582 | 13.5 | 448 | 113 | 630 | 544 | 5,465 |
| 1947 | 5,188 | 113 | 3,385 | 5,108 | 3,277 | 3,452 | 936   | 781 | 79 | 61 | 26 | 576 | 13.0 | 434 | 115 | 625 | 495 | 5,273 |
| 1948 | 5,341 | 111 | 3,474 | 5,815 | 3,370 | 3,643 | 994   | 797 | 83 | 60 | 26 | 581 | 12.3 | 410 | 114 | 605 | 520 | 5,295 |
| 1949 | 5,336 | 109 | 3,645 | 5,654 | 3,398 | 3,637 | 943   | 783 | 88 | 64 | 28 | 621 | 11.8 | 382 | 109 | 592 | 524 | 5,236 |
| 1950 | 5,392 | 109 | 3,857 | 5,927 | 3,490 | 3,670 | 955   | 780 | 88 | 60 | 27 | 600 | 11.5 | 374 | 100 | 561 | 522 | 5,152 |
| 1951 | 5,502 | 112 | 3,721 | 6,129 | 3,370 | 3,633 | 980   | 751 | 87 | 60 | 27 | 598 | 11.2 | 366 | 94  | 556 | 491 | 4,951 |
| 1952 | 5,407 | 107 | 3,592 | 5,391 | 3,197 | 3,417 | 922   | 744 | 90 | 59 | 27 | 579 | 11.0 | 368 | 92  | 548 | 477 | 4,911 |
| 1953 | 5,401 | 106 | 3,565 | 5,783 | 3,116 | 3,360 | 878   | 722 | 92 | 58 | 27 | 601 | 10.8 | 351 | 93  | 545 | 538 | 4,787 |
| 1954 | 5,533 | 106 | 3,585 | 6,053 | 3,187 | 3,462 | 898   | 751 | 89 | 55 | 26 | 563 | 10.4 | 339 | 90  | 542 | 494 | 4,880 |
| 1955 | 5,572 | 104 | 3,726 | 6,070 | 3,067 | 3,355 | 896   | 707 | 92 | 55 | 27 | 578 | 10.2 | 317 | 83  | 560 | 514 | 4,784 |
| 1956 | 5,791 | 105 | 3,986 | 6,201 | 3,446 | 3,726 | 963   | 798 | 95 | 58 | 26 | 546 | 9.8  | 312 | 95  | 569 | 536 | 4,965 |

<sup>1</sup> Number of grain-fattened cattle not available before 1930. Feed consumed by all grain-fattened cattle divided by the number on feed January 1. The total number fattened in the year has been increasing relative to the number on feed January 1 and is now about 70 percent larger than the number on feed January 1.

<sup>2</sup> Feed for all cattle, except milk cows, divided by the net live-weight production of cattle and calves. It includes the growth on dairy heifers and calves as well as all beef cattle.

<sup>3</sup> This should not be used as a measure of efficiency of feeding, as much feed was salvaged from waste feed in the early years. See page 45.



TABLE 77.—*Feed per unit of livestock production, excluding horses and mules and city livestock, 1910-56*

| Year beginning Oct. 1 | Feed units consumed |                     |                     |                     | Index numbers (1947-49=100) |                                   |                             |
|-----------------------|---------------------|---------------------|---------------------|---------------------|-----------------------------|-----------------------------------|-----------------------------|
|                       | Concentrates        | Harvested roughage  | Pasture             | Total               | Feed                        | Livestock production <sup>1</sup> | Feed per unit of production |
|                       | <i>Million tons</i> | <i>Million tons</i> | <i>Million tons</i> | <i>Million tons</i> |                             |                                   |                             |
| 1910.....             | 69.7                | 29.6                | 74.4                | 173.7               | 69                          | 63                                | 110                         |
| 1911.....             | 65.4                | 27.7                | 85.8                | 178.9               | 71                          | 62                                | 115                         |
| 1912.....             | 72.8                | 29.2                | 80.4                | 182.4               | 72                          | 62                                | 116                         |
| 1913.....             | 65.2                | 29.9                | 86.0                | 181.1               | 72                          | 65                                | 111                         |
| 1914.....             | 68.3                | 32.2                | 100.5               | 201.0               | 80                          | 69                                | 116                         |
| 1915.....             | 74.9                | 34.8                | 96.4                | 206.1               | 82                          | 71                                | 115                         |
| 1916.....             | 66.2                | 36.5                | 95.2                | 197.9               | 79                          | 72                                | 110                         |
| 1917.....             | 75.1                | 37.0                | 95.1                | 207.2               | 82                          | 75                                | 109                         |
| 1918.....             | 71.9                | 36.5                | 107.4               | 215.8               | 86                          | 74                                | 116                         |
| 1919.....             | 71.9                | 37.3                | 102.2               | 211.4               | 84                          | 73                                | 115                         |
| 1920.....             | 78.3                | 36.4                | 96.6                | 211.3               | 84                          | 73                                | 115                         |
| 1921.....             | 78.5                | 36.9                | 95.0                | 210.4               | 84                          | 76                                | 111                         |
| 1922.....             | 79.8                | 36.7                | 94.5                | 211.0               | 84                          | 78                                | 108                         |
| 1923.....             | 80.9                | 36.4                | 90.2                | 207.5               | 82                          | 78                                | 105                         |
| 1924.....             | 72.1                | 35.7                | 82.2                | 190.0               | 75                          | 75                                | 100                         |
| 1925.....             | 80.4                | 34.5                | 82.5                | 197.4               | 78                          | 76                                | 103                         |
| 1926.....             | 80.2                | 31.4                | 86.5                | 198.1               | 79                          | 77                                | 103                         |
| 1927.....             | 83.1                | 34.0                | 81.7                | 198.8               | 79                          | 79                                | 100                         |
| 1928.....             | 83.4                | 34.1                | 83.1                | 200.6               | 80                          | 80                                | 100                         |
| 1929.....             | 82.5                | 34.5                | 71.2                | 188.2               | 75                          | 79                                | 95                          |
| 1930.....             | 76.3                | 34.1                | 75.8                | 186.2               | 74                          | 82                                | 90                          |
| 1931.....             | 86.3                | 35.3                | 81.8                | 203.4               | 81                          | 82                                | 99                          |
| 1932.....             | 91.6                | 37.9                | 78.4                | 207.9               | 83                          | 84                                | 99                          |
| 1933.....             | 78.7                | 39.0                | 68.2                | 185.9               | 74                          | 82                                | 90                          |
| 1934.....             | 60.2                | 35.6                | 86.4                | 182.2               | 72                          | 76                                | 95                          |
| 1935.....             | 75.7                | 38.1                | 69.7                | 183.5               | 73                          | 78                                | 94                          |
| 1936.....             | 66.3                | 37.4                | 79.3                | 183.0               | 73                          | 79                                | 92                          |
| 1937.....             | 82.5                | 36.7                | 86.3                | 205.5               | 82                          | 82                                | 100                         |
| 1938.....             | 86.7                | 40.4                | 77.1                | 204.2               | 81                          | 85                                | 95                          |
| 1939.....             | 90.8                | 40.7                | 85.5                | 217.0               | 86                          | 89                                | 97                          |
| 1940.....             | 96.6                | 42.3                | 93.8                | 232.7               | 92                          | 92                                | 100                         |
| 1941.....             | 107.4               | 45.4                | 105.6               | 258.4               | 103                         | 101                               | 102                         |
| 1942.....             | 131.2               | 48.2                | 104.6               | 284.0               | 113                         | 108                               | 105                         |
| 1943.....             | 129.0               | 49.5                | 106.9               | 285.4               | 113                         | 108                               | 105                         |
| 1944.....             | 118.1               | 49.6                | 113.4               | 281.1               | 112                         | 105                               | 107                         |
| 1945.....             | 121.0               | 48.1                | 101.8               | 270.9               | 108                         | 103                               | 105                         |
| 1946.....             | 111.9               | 48.5                | 100.1               | 260.5               | 103                         | 101                               | 102                         |
| 1947.....             | 102.6               | 47.1                | 93.2                | 242.9               | 96                          | 98                                | 98                          |
| 1948.....             | 112.0               | 46.7                | 93.4                | 252.1               | 100                         | 99                                | 101                         |
| 1949.....             | 118.3               | 47.1                | 94.8                | 260.2               | 103                         | 104                               | 99                          |
| 1950.....             | 122.5               | 51.5                | 100.5               | 274.5               | 109                         | 109                               | 100                         |
| 1951.....             | 125.5               | 54.9                | 101.9               | 282.3               | 112                         | 110                               | 102                         |
| 1952.....             | 114.3               | 56.6                | 104.0               | 274.9               | 109                         | 113                               | 96                          |
| 1953.....             | 117.6               | 58.0                | 103.0               | 278.6               | 111                         | 115                               | 96                          |
| 1954.....             | 117.2               | 58.9                | 108.0               | 284.1               | 113                         | 119                               | 95                          |
| 1955.....             | 123.9               | 59.6                | 102.4               | 285.9               | 114                         | 120                               | 95                          |
| 1956.....             | 125.1               | 58.8                | 116.4               | 300.3               | 119                         | 119                               | 100                         |

<sup>1</sup> Production of livestock and livestock products, horses and mules excluded. Computed by weighting production of each kind of product by feed used including pasture.

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